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INSECTA BRITANNICA.

DIPTERA.

VOL. I.

BY

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PREFACE.

The following descriptions are prepared from British or Irish specimens; and the species which are doubtful natives of Great Britain and Ireland, or which I have not had the means of examining, are omitted. The *Diptera* are here divided into *Suctoridea, Proboscidea,* and *Eproboscidea*: the *Proboscidea* comprise the *Nemocera, Brachycera,* and *Hypocera*; and this volume contains the families of *Brachycera* in which the *Diptera* are most highly organized, or have their characters most developed. Mr. Haliday has contributed the characters and synoptical tables of the *Diptera,* of the *Empidæ,* and of the *Syrphidæ,* and the whole of the *Dolichopidæ*; and I am also indebted to him for his kind assistance in other parts of the volume. The ten plates are prepared by Mr. Westwood; two others, by Mr. Haliday, illustrating the wings of *Diptera* generally, will appear in the next volume.

The last volume will contain an introduction and general observations on these insects.

Francis Walker.

December, 1851.

EXPLANATION OF THE CONTRACTIONS IN THE REFERENCES.

Ags.—Agassiz.

Ahr. f. e. and fn.—Ahrens, Fauna Insectorum Europæ.

Bc.—Bouché.

Brm. and Bms.—Burmeister.

Brullé exp. m.—Brullé, Expédition Scientifique de la Morée.

Carlier, ann. soc. ent. fr.—Carlier, Annales de la Société Entomologique de la France.

Ct. b. e.—Curtis, British Entomology

Dcn. and Dc.—Duncan.

Dg. and Deg. ins. and i.—De Geer, Insectes, &c.

Dmr. and Dml.—Duméril, Dict. Nouv. de l'Histoire Naturelle.

Dnv. and Dnvn.—Donovan, British Insects.

Duf. and Df.—Léon Dufour.

Fb. s. e.; sp. i., sp., and s. i.; mnt.; e. s.; s. a.—Fabricius, Systema Entomologiæ, Species Insectorum, Mantissa Insectorum, Entomologia Systematica, Systema Antliatorum.

Fln. d. s.; spl., sppl., suppl.; anthr.; asil.; dol.; emp.; str.; syrph.—Fallen, Diptera Sueciæ; Supplement; Anthracides; Asilici; Dolichopodes; Empidæ; Stratiomydæ; Syrphici.

Fischer progr.—Fischer von Waldheim; Programme.

Ftr. and Frst., s. sp., and ct.—Forster, Cent.; Novæ Species Insectorum.

Gf. and Gfr.; ins. ed. Fcry.—Geoffroy, Histoire des Insects; Insecta edente Fourcroy, or Entomologia Parisiensis.

Gm. s. n.—Gmelin, Systema Naturæ, ed. 13.

Gmtl.—Gimmerthal.

Gn., Gr., and Grn.; ic.—Guérin, Iconographie du Règne Animal.

Hal. and A. H. H.; a. n. h.; e. m.; z. j.—Haliday, Annals of Natural History; Entomological Magazine; Zoological Journal.

Harris, or Hrs.—Harris, Exposition of English Insects.

Hbst.—Herbst.

Hms., Hfg., and Hffg.—Hoffmansegg in Meigen.

Illig. and Ill.; mag.—Illiger; magazine.

Kby.—Kirby.

L. and Lin.; s. n.; fn., and f. s.—Linnæus, Systema Naturæ; Fauna Suecica.

Lch.; comp., Sam. Comp., and Sm. cp.—Leach in the Entomologist's Useful Compendium, by Samouelle.

Lhm.; n. act. ac. dec., and act. acad. dec.—Lehmann, Nova Acta Academiæ, Decade, &c.

L. and Latr.; f. n.; d. h. n.; g. c., and gen.; h. n.; r. a.—Familles Naturelles; Dictionnaire de l'Histoire Naturelle; Genera Crust. et Insectorum; Histoire Naturelle des Insectes; Règne Animal; Précis des Caractères, &c.

Lm.—Lamarck, Animaux sans Vertèbres.

Lw.; d. b., and bytr.; e. z.; l. e.—Loew; Beyträge; Entomologische Zeitung; Linnæa Entomologica.

Mg.; kl.; zw.; ill. mag.—Meigen; Klassifikazion, &c.; Zweiflügeligen Insekten; Illiger's Magazin für Insektenkunde.

Mgrle. and Mgle.—Megerle in Meigen.

Mk.; m. b.—Mikan; Monographia Bombyliorum Bohemiæ.

Mlr.; pr.—Müller; Fauna Friedrichsdahliensis; Prodromus Zoologiæ Danicæ.

Mq.; d., and d. i.; d. n., and d. n. fr., emp.; d. e.; a. s. e.—Macquart; Histoire Naturelle des Insectes Diptères; Diptères du Nord le la France, Empides, &c.; Diptères Exotiques; Annales de la Société Entomologique de la France, série 2.

Nwm.—Newman.

Ol. enc.—Olivier, Encyclopédie Méthodique.

Prylsr.—Preysler, Insekten, &c.

Pz.; fn.—Panzer; Fauna Insectorum Germaniæ.

Rdn.—Rondani.

Rfnq. and Rfn.—Rafinesque.

Rgb.—See *Leptis lineola*, p. 66, in Errata.

Rm.—Réaumur, Insectes, &c.

Ro., Ros., and Rsi.; etr.—Rossi; Fauna Etrusca; edente Illigerio.

Roser; Wurt. zw.—Verzeichniss Würtemberg. Zweiflügeligen.

Rs.—Rossi; Systematisches Verzeichniss der zweiflügelichten Insecten (*Diptera*) des Erzherzogthums Oesterreich. (Wien, 1848.)

Rtz.—Ratzburg.

Sch., Schf., Schff., and Shf.; ic.—Schæffer; Icones Insectorum, &c.

Sd.; ent.—Shuckard in The Entomologist.

Shl., Schlb., and Schll.—Schellenberg.

Shr.; i. a., and in.; f. b. and fn.—Schranck; Insecta Austriæ; Fauna Boica.

Slb.—Sahlberg.

Spl.; e. c., and i. c., and carn.—Scopoli; Entomologia Carniolica.

St. and Steph.; b. e.; ill.—Stephens; Illustrations of British Insects, *Haustellata*; Illustrations of British Entomology.

St. F. et Srv.—St. Fargeau et Serville in the Encyclopédie Méthodique.

Stg. and Stæg.; e. z.—Stæger; Entomologische Zeitung, and in Kroyer's Naturhistorische Tidsskrift.

Stn.—Stannius in Oken's Isis.

Wd., Wdm., and Wdn.; z. m., and mag.—Wiedemann; Zoologische Magazin.

Wlbg.; act. holm.—Wahlberg; Kongl. Svenska Vetenskaps Academiens Handlingar. Ofversigt, ditto.

Wlk. e. m.; c. d. b. m.—Walker, in the Entomological Magazine; Catalogue of *Diptera* in the British Museum.

Wtw. and Wstw.; cl., clf., and class.—Westwood; Classification of Insects.

Zll.; and Zlr.—Zeller, in Oken's Isis.

Ztt.; d. s.; i. l., and lap.; a. holm.—Zetterstedt; Diptera Scandinaviæ; Insecta Lapponica; Kongl. Svenska Vetenskaps Academiens Handlingar.

INSECTA BRITANNICA.

DIPTERA.

Os suctorium, proboscide, setis inclusis, palpisque.
Alæ binæ; halteres bini pone alas.
Tarsi pentameri.

*Synonyma.**

Oken, 1821.—Burmeister; Strauss Durckheim; Erichson; Siebold.
Antliata; Schioedte, 1841.

Diptera et *Suctoria*: Degeer, 1778; Latreille, 1797; Savigny; Dugès.
Diptera et *Aptera*: M'Leay, 1821.
Diptera et *Siphonaptera*: Latreille, 1825.
Diptera et *Aphaniptera*: Kirby, 1826; Westwood.

Diptera, Omaloptera et *Aptera*: Leach, 1819.
Diptera, Pupipara et *Suctoria*: Latr., 1821.
Diptera, Homaloptera et *Aphaniptera*: Stephens, 1827; Curtis.
Diptera, Omaloptera et *Pulicarii*: Rondani, 1841.

* The synonyms are arranged in the following gradations:—

		Lines.
1. Equivalent	1, homonymous	1
	2, synonymous	2
2. Collective	1, in two members	3–6
	2, in three members	7–10
3. Supplementary	An entire group and part of another co-ordinate	11–17
4. Indefinite	Portions only of groups	18, 19
5. Ancient, before the distinct gradations of groups were observed		20–22

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Diptera et *Aptera p.*: Linnæus, 1753; Geoffroy; Müller; Olivier; Cuvier; Dumeril; (Meigen; Fallen; Zetterstedt.)
Halterata et *Pedestria p.*: Scopoli, 1763.
Muscoides et *Oniscoides p.*: Laicharting, 1781.
Halteriptera et *Rophoteira p.*: Clairville, 1798.
Diptera et *Antennidia p.*: Rafinesque, 1815.
Aptera et *Diptera p.*: Lamarck.

Angioptera p.: Linnæus, 1735.
Antliata p. et *Ryngota p.*: Fabricius, 1775; Illiger.

Diptera et Aptera p.: *Aristoteles.*
Bipennia et impennia p.: *Plinius.*
Anelytra bipennia, &c.: *Lister.*

Mouth suctorial; with a proboscis, or sheath, closed on the underside (Labium), usually shut above by a slighter piece (Labrum), and *enclosing* (generally an odd number of) *lancets,* varying between one and five, (Lingua, Maxillæ, Mandibulæ:) a pair of *palpi* (maxillary); rarely there are the rudiments of another pair (labial), or there are none at all. Sometimes the mouth is obsolete, or even closed.

Thorax compact; prothorax very short, immovably attached to the mesothorax, which is the largest segment.

A pair of wings (the anterior), the membrane not clothed with scales; divided into a moderate number of areolets, by interlaced veins; the base of the wing continued, more or less, in sinuous folds (Alulæ), below the sides of the scutellum. *A pair of* small clavate appendages, filled with air (*Halteres*), *behind them,* in place of the posterior wings.

Sometimes the wings, or both wings and halteres, are wanting.

Tarsi pentamerous, rarely tetramerous.*

No nipping jaws; no wing-cases.

This order is not liable to be confounded with almost any other, as regards the winged species, which form the vast majority. Only the male *Coccidæ,* when they have compound eyes (some *Dorthesiæ,* &c.), resemble *Chironomidæ* with the proboscis obsolete; but their tarsi, of one joint and with a single claw, are sufficient to distinguish them. The very superficial resemblance which some NEUROPTERA (*Cloëon* spp. &c.), wanting the hind wings, bear to dipterous insects, is not likely to mislead: these have not halteres, and both the shape and the veining of the

* Only two instances are recorded, viz., *Dicera furcata* (*Germar*), in which the posterior pairs, and *Echinomyia tetramera* (Zett.), in which all the tarsi, are tetramerous.

wings differ from DIPTERA. Still more remote is the relation to the male *Stylopidæ*, in which it is the metathorax, with the hinder wings alone, that are developed, and the position of the seeming halteres (fore wings) is relatively the inverse. Among HYMENOPTERA, the genus *Mymar* has the hinder wings only rudimental, but they take the form of a bristle merely.

The wingless species of Diptera may be distinguished from those of most other orders, (HEMIPTERA and NEUROPTERA p., sc. *Forficulidæ, Podurella, Mallophaga, Termitidæ, Psocidæ, Physapoda*, spp. &c.,) by the 5-jointed tarsi; and where this mark fails (from COLEOPTERA, HYMENOPTERA, and the other wingless NEUROPTERA), by the want of nipping jaws, or of the maxillary spiral sucker (of LEPIDOPTERA); without going into the other distinctive characters.

In Diptera, the labium seems to be the true pump, or instrument of suction. Accordingly, where the fly merely imbibes excreted juices of plants, &c., we find the labium much longer than the rest of the oral organs (e. g. *Conops, Siphona, Musca, Hydrotæa, Tephritis*, and most of the *Muscidæ*, the *Syrphidæ, Pipunculidæ*, &c.). But where the fly preys on other insects, there is a borer (composed of labrum, tongue, and usually also maxillæ) nearly as long as the labium (*Asilidæ, Empidæ, Scatophaga, Cœnosia, Cordylura*, &c.); and where they have to pierce the skin of larger animals, to make the blood flow to the sucker, this development is more evident (*Stomoxys*), sometimes the borer being reinforced with mandibular lancets (*Tabanidæ, Culex, Phlebotomus, Ceratopogon, Simulium**). The comparative shortness of the labrum and tongue in some of the family *Dolichopidæ*, which are all predaceous, is only apparently an exception; see further under that head. The length of the labium is not an obstacle to the borer going deep; for while its extremity continues to embrace and steady the lancets of the borer, the intermediate length may be detached from them, in a loop, allowing the liplets to slide back as the borer penetrates (e. g. *Culex*).

* The entire mouth forming a cupping apparatus.

DIPTERA.

Antennæ	lying flat in cavities at the sides of the head		1. SUCTORIDEA.
	seated in front of the head: Legs	close side by side	2. PROBOSCIDEA.
		distant	3. EPROBOSCIDEA.

SUCTORIDEA.

Suctoria, Degeer; Latr.
Aphaniptera, Kirby; Stephens; Curtis; Westwood.
Siphonaptera, Latr.
Aptera, Lamarck; M'Leay.
Aptera p., Linn.; Dumeril.
Rhophoteira p., Clairville.
Diptera p., Oken; Burmeister; Erichson; Siebold.
Ryngota p., Fabr.
Antliata p., Schioedte.

Antennæ pone oculos, laterales, distantes, recumbentes.
Oculi bini, laterales, simplices.
Mandibulæ extricatæ, serratæ. Lingua nulla.
Palpi labiales non semper obsoleti.
Alæ et halteres nulla.
Epimera prothoracis libera, porrecta.
Corpus compressum, ad juncturas thoracis cum capite et abdomine non constrictum.

PROBOSCIDEA.

Proboscidea, *Latr.*
Diptera, *Leach; Meigen.*

Antennæ in fronte inter oculos.
Labium apice bilobo. Lingua labro inclusa.
Palpi maxillis affixi, vel fulcro proboscidis.
Alæ et halteres in plerisque.
Pedes cujusque paris inter se fere contigui.

Head attached to the front of the thorax by a slender neck. Large compound facetted eyes at the sides of the head; on the vertex often three simple eyes. *Antennæ* inserted *in front* of the head, *between the* large *eyes*. Proboscis attached to a fleshy prop inserted in a cavity in

the lower and anterior part of the head. *Labium ending in a* thicker *bilobed piece* (the "labella"), traversed internally by radiating tracheæ; sheathing the mandibles and maxillæ when these are developed. *Labrum* closing this sheath above, *embracing the lingua. Palpi attached to the* base of the *maxillæ, or,* if these are wanting, seated on *the prop of the proboscis.* Prothorax very small, immovably joined to the mesothorax, which is the largest piece. *Wings and halteres* developed, almost always. Abdomen at the base much more slender than the thorax, its dorsal segments at least distinct (4 or more). *Legs of each pair close together,* and the posterior two pairs to each other; the fore pair usually farther from the intermediate. Ungues and onychia symmetrical pairs.

PROBOSCIDEA.

Antennæ	with distinct joints, at least 6, (usually more than 10) . . .	1. NEMOCERA.
	with 3 to 10 joints; after the 3d closely united, or abruptly slighter. Posterior veins of the wing	
	branched or interlaced, more or less	2. BRACHYCERA.
	simple, detached, and very faint .	3. HYPOCERA.

NEMOCERA, *Latr.*; *Macq.*; &c.

Antennæ articulis discretis saltem sex sæpius decem et ultra.
Palpi plerumque deflexi, articulis pluribus exsertis.
Areola analis in marginem posteriorem aperta.

Add. Antennæ *plerumque* capite longiores, graciles, filiformes aut setaceæ.
Alulæ scutellares obsoletæ;
Lobus axillaris quoque ut plurimum.
Alæ venis multimodis, nec facile in typum redigendis.
Ocelli sæpe desunt.
Ungues haud raro denticulati.

BRACHYCERA, *Macq.*

Antennæ articulis post tertium connatis, vel extremis (1–3) nimis attenuatis.
Palpi porrecti, aut proboscidi incumbentes, quasi exarticulati.
Areola analis ferme clausa.
Venæ posteriores ramosæ vel anastomosi connexæ.

Figure usually stouter and more compact than in *Nemocera,* and the head broader, and more vertical. Cavity of the mouth at the underside

rather than at the anterior part of the head, so that the eyes are always separated below in consequence of its interposition. Ocelli seldom wanting. The *flagellum of* the *antennæ* more *compact*, sometimes in one piece (never having more than 8 joints in our native kinds), *usually terminating in* (one to three) *abruptly slighter joints. Palpi* short, projecting *above the proboscis, or lying on it*, appearing externally *inarticulated*, the first joints, if there be any such distinct, being short. The veining of the wings is more easily reducible to one type than in *Nemocera*.* The *anal areolet* is *closed*, often at a distance from the margin, or if it reaches this, it is tapered nearly to a point: rarely it disappears with the anal vein. The inner or scutellar alulæ are often developed, sometimes so as to conceal the halteres. The ungues are not toothed. The empodium is usually more slender than the onychia.

HYPOCERA, *Macq.* = Trineuræ, *Latr.*

Antennæ prope epistoma, articulo uno insigniore et arista.
Mandibulæ et maxillæ obsoletæ.
Palpi porrecti, exarticulati.
Alæ venis anterioribus validis, cum costale, circa medium costæ desinentibus; posterioribus subtilissimis, simplicibus, disjunctis.
Coxæ et femora crassa, compressa.

EPROBOSCIDEA.

Omaloptera, *Leach.*
Pupipara, *Latr.*
Homaloptera, *Steph.; Curtis.*

Antennæ foveolis immersæ prope os.
Labium tubulosum, superne fissum, basi inflatum, lingua tenui inclusa et labro incumbente inter palpos porrectos fere vaginatum.
Pedes dissiti sterno lato.
Abdomen coriaceum, vix insectum.
Alæ et halteres sæpius mutila vel nulla.
Ungues duplicati, vel triplicati.

Add. Palpi extra fulcrum labii siti, nec cum eo exserendi. Oculi multiformes. Prosternum ultra capitis insertionem porrectum. Thorax depressus. Alæ ubi completæ fere ut in Brachyceris. Abdomen basi constrictum. Ungues et onychia imparia, utraque ex adverso, i. e. unguis major arolium minus subjectum habet et vice versa. Ungues ad scansum apti.

* The veins which run to the hind margin chiefly originate from an intermediate axis, which divides into three branches near the root of the wing, and these are usually again subdivided, and connected by deflexion or by transverse veins.

SUCTORIDEA.

Fam. 1. PULICIDÆ.

NEMOCERA.

- Scutum of Mesonotum
  - with an angular transverse seam . . . . . Fam. 10. TIPULIDÆ.
  - undivided: Wings and Halteres
    - wanting . . g. *Epidapus* in Fam. 2.
    - developed: Ocelli
      - two or three: Discal areolet
        - complete . . . . . 11. RHYPHIDÆ.
        - none: Pronotum
          - conspicuous . 4. BIBIONIDÆ.
          - inconspicuous . 2. MYCETOPHILIDÆ.
      - none: Costal vein
        - ending near the tip of the wing: Tibiæ and Metatarsi
          - broad, compressed . . 5. SIMULIDÆ.*
          - slender, subcylindrical 6. CHIRONOMIDÆ.
        - attenuated round the hind margin: Veins in their last subdivisions
          - Wings
            - not more than six . . . . . 3. CECIDOMYZIDÆ.
            - more than six
              - ovate or lanceolate, deflected or divaricated . . . . 8. PHLEBOTOMIDÆ.
              - oblong, rounded at the tip, incumbent: Hind margin fringed with
                - scales . 7. CULICIDÆ.
                - hairs . 9. HETEROCLITÆ.

* For *Simuliadæ*, the proper etymological form (framed after the analogy of *Deucalidæ* from *Deucalion*), to preserve the uniformity of the termination *idæ*. And so in other cases following.

BRACHYCERA.

- Wings
  - perfect: Halteres
    - covered by the Alulæ: Head minute, nearly all eye . . . . . Fam. 15. ACROCERIDÆ.
    - uncovered; or else head pretty large: Cubital vein
      - forked: Anal areolet
        - tapering to the hind margin, or nearly: Costal vein
          - ending near the tip of the wing: Antennæ of
            - 3 joints . . . . . 19. SCENOPINIDÆ.
            - more than 3 joints . . . 12. STRATIOMIDÆ.
          - attenuated round the hind margin: Scutellar Alulæ
            - elevated . . . . . 14. TABANIDÆ.
            - obsolete: last joints of the Antennæ
              - not out of proportion, small . . . . 13. XYLOPHAGIDÆ.
              - suddenly diminished from the 3rd: Vertex
                - hollowed . . . . . 16. ASILIDÆ.
                - evenly convex: Empodium
                - dilated like the onychia . 17. LEPTIDÆ.
                - slender and pointed . . 18. BOMBYLIDÆ.
        - short, and distant from the hind margin . . . . . 20. EMPIDÆ.
      - simple: Proboscis
        - distinct: Axillary lobe of wing
          - rounded: Brachial veins
            - obsolete: Tip of wing
              - rounded: Brachial and anal areolets
                - reaching (some of them) to the first third of wing . . . 20. EMPIDÆ.
                - very minute, or indistinct . 21. DOLICHOPIDÆ.
              - pointed . . . . . 22. LONCHOPTERIDÆ.
            - without spurious vein: last joints of Antennæ
              - each accompanied by a spurious vein . . . . 25. SYRPHIDÆ.
              - forming a slender arista; attached to the 3rd joint
                - forming a short style . . . . . 26. CONOPIDÆ.
                - on its upper edge: Eyes
                - as its tip . . . . . 23. PLATYPEZIDÆ.
                - below
                - touching the peristoma 24. PIPUNCULIDÆ.
                - bounded by the cheeks 27. MUSCIDÆ.
        - obsolete . . . . . 28. ŒSTRIDÆ.
  - abortive: 3rd joint of Antennæ bearing the arista
    - at its tip . . . . . (20. Empidæ p.)
    - on its upper edge . . (27. Muscidæ p.)

See addenda p. vol III

HYPOCERA.

Fam. 29. PHORIDÆ.

EPROBOSCIDEA.

Head { prone, the neck lying on the prosternum . . Fam. 30. HIPPOBOSCIDÆ.
turned back, and upside down, over the mesonotum . 31. NYCTERIBIDÆ.

XII

FAMILY I. STRATIOMIDÆ.

STRATIOMYDÆ, Ll. g. c. (1809); Fln.; Mg.; Ztt. *Stratiomydes*, Mq.

Corpus magnum, medium, aut minus. Ocelli 3. Proboscis retracta. Labium crassum. Palpi sæpissime clavati. Antennæ porrectæ, 5–10-*articulatæ*, basi approximatæ, apice conicæ aut seta elongata aut stylo brevissimo terminatæ; articuli tertius et sequentes subæquales. Scutellum muticum aut spinosum. Alæ incumbentes, plerumque tenuiter et obsolete venosæ. Vena cubitalis furcata. Areola analis longa. Vena costalis prope alæ apicem terminata. Alulæ parvæ. Abdomen depressum, 5-annulatum, sæpissime latiusculum. Pedes breviusculi, simplices, mutici, pubescentes.

Mas. Oculi sæpissime contigui.

Fœm. Oculi remoti.

Body rather flat, of large, middle, or small size. Ocelli 3. Proboscis withdrawn. Palpi most often clavate. Labium thick. Antennæ porrect, approximate at the base, 5–10-*jointed*, with conical tips, or terminating in a short style or in a long bristle; third and following joints compact, almost equal, forming a flagellum. Scutellum unarmed or beset with spines. Wings incumbent, parallel; *veins crowded together near the fore border; cubital vein forked; costal vein ending near the tip of the wing*; longitudinal veins generally slender, indistinct, not reaching the border; discal areolet small. Alulæ small. Halteres uncovered. Abdomen depressed, generally rather broad, with 5 segments. Legs simple, pubescent, unarmed, of moderate length. Tarsi with 3 onychia.

Male. Eyes generally contiguous.

Female. Eyes remote.

The species of this family inhabit flowers, leaves of trees, meadows, or aquatic plants; from the spring to the autumn their movements are slow. The larvæ are aquatic, or live in decomposing matter or in decayed wood.

- Scutellum
  - armed with spines: Antennæ
    - not stylate: Palpi
      - almost obsolete . . . . . 1. BERIS.
      - long . . . . . 2. ACTINA.
    - stylate: Style
      - short . . . . . 3. STRATIOMYS.
      - long: Antennæ
        - 8-jointed 4. OXYCERA.
        - 9-jointed 5. CLITELLARIA.
  - unarmed: Epistoma
    - porrect . . . . . 6. NEMOTELUS.
    - declining: Antennæ
      - 8-jointed . . . 7. PACHYGASTER.
      - 7-jointed . . . 8. CHRYSOMYIA.
      - 6-jointed . . . 9. SARGUS.

Genus I. **BERIS.**

BERIS, Ll. g. c. (1809); Mg.; Wd.; Mq.; Ct.; Ztt. *Musca* p., L.; Ftr.; Fb.; Shr. *Stratiomys* p., Fb.; Ftr.; Gm.; Gf.; Pz.; Fln. *Actina*, Mg. kl.

Corpus oblongum, sat angustum. Color metallicus, abdomine interdum flavo; pictura nulla. *Palpi subobsoleti. Antennæ sulfusiformes; flagellum subconicum. Scutellum spinis* 4–8 *armatum.* Alarum venæ 3 longitudinales, præter areolam analem longe retractam, in alæ marginem interiorem descendentes; *vena cubitalis subrecta; furca sat longa.* Abdomen depressum. Tibiæ muticæ.

Mas. Oculi contigui.

Fœm. Oculi remoti.

Body rather narrow, clothed with short hairs. Colour black or metallic, without spots, bands, or stripes; abdomen of some species yellow. Head depressed. Labrum very short, broad, hollow, emarginate at the tip; the sides thickened. Tongue acute, rather longer than the labrum. Palpi *almost obsolete.* Labium large. *Antennæ long-fusiform,* porrect, approximate, diverging, 10-jointed, a little longer than the head; first and second joints bristly; first more slender at the base; second cyathiform; third and following joints forming a long-conical flagellum. Thorax oval, with some transverse sutures on the sides. *Scutellum* rounded, *armed with* 4, 6, *or* 8 *spines.* Wings finely pubescent; *cubital vein almost straight, its fork rather long.* Alulæ entire, very small. Abdomen flat. Legs slender.

Male. Eyes contiguous. Abdomen linear; lateral lamellæ of the hypopygium hooked, exserted. Hind metatarsus long, broad.

Female. Eyes remote. Abdomen long-elliptical.

These insects inhabit flowers and herbage during the summer. *B. clavipes* and *B. vallata* frequent open meadows; the other species are more often found in woods.

a. Abdomen yellow. Species 1, 2.
a a. Abdomen metallic or black. Species 3–6.

1. **clavipes,** L. s. n. ii. 981. 12 (1767); Fb.; Shr.; Gm.; Pz.; Gf.; Ll.; Mg.; Fln.; Mq.; Ztt.; Lw.—*nigra*, Gf. Nigra, scutello sex-spinoso, alis fuscis, abdomine luteo *segmentis fusco-fasciatis*, pedibus luteis, tarsis nigris, tibiis anterioribus fuscis basi flavis; *Mas*. abdomine basi nigro. Long. $2\frac{1}{2}$–3; alar. 5–6 lin.

Black, thinly clothed with tawny hairs. Proboscis tawny. Scutellum armed with 6 spines. Wings brown, dark brown at the base and along the fore border. Halteres yellow. Abdomen luteous; *a slender brown band near the hind border of each segment*. Legs luteous; tarsi black; posterior tibiæ dark brown, yellow towards the base.

Male. Abdomen black at the base. Hind metatarsus dilated.

Generally distributed. The eggs are oval, and form a chain about an inch long, being connected, in an oblique position, side by side. (E. S. I.)

2. **vallata,** Ftr. n. sp. i. I. 96 (1771); Gm.; Mg.; Mq.; Ztt.; Lw.—*nigritarsis*, Ll.—*clavipes*, Mg. Nigra, scutello sex-spinoso, *abdomine luteo*, pedibus flavis, tarsis nigris, tibiis fuscis basi flavis. Long. $2\frac{1}{4}$–$2\frac{3}{4}$; alar. $4\frac{1}{2}$–$5\frac{1}{2}$ lin.

Black, thinly clothed with tawny hairs. Proboscis tawny. Antennæ with the third joint sometimes ferruginous or tawny. Scutellum armed with 6 spines. Halteres yellow. *Abdomen luteous*. Legs yellow; tibiæ dark brown, yellow towards the base; tarsi black. *Var*. Hind tibiæ quite yellow; hind metatarsus tawny. *Male*. Wings brown. Hind metatarsus slightly dilated. *Fem*. Wings colourless, yellow at the base and along the fore border as far as the stigma, which is brown.

Generally distributed. (E. S. I.)

3. **chalybeata,** Ftr. n. sp. i. I. 95 (1771); Mg.; Mq.—*sexdentata*, Fb.; Ll.; Mg.; Ztt.; Lw.—*obscura*? Mg.; Mq.; Ztt.—*flavipes*, Mq.—*atra*, Mg. Viridis, *scutelli spinis nigris, pedibus fulvis, tarsis fuscis, metatarso postico fulvo; Mas*. alis nigro-fuscis, abdomine atro; *Fœm*. fronte lata, alis fulvo-subcinereis, abdomine piceo. Long. 2–$2\frac{1}{2}$; alar. 4–5 lin.

Antennæ black. *Scutellum armed with* 4, 6, *or* 8 *black spines*. Legs tawny; *tarsi brown*. *Male*. Dark green, clothed with short black hairs. Proboscis yellow. Wings dark brown; stigma very dark brown. Halteres brown. Abdomen deep black, not shining. Coxæ black. *Hind metatarsi dark tawny*. *Fem*. Bright bluish-green, clothed with short tawny hairs. Proboscis tawny. Wings pale grey, with a tawny tinge;

stigma brown. Halteres tawny. Abdomen piceous, shining. Hind metatarsi tawny.

Var. Fem. Antennæ with the third joint ferruginous.

Generally distributed; the pupa has been found in moss. (E. S. 1.)

4. **fuscipes,** Mg. zw. ii. 8. 11 (1820); Lw.—*nigra,* Mg.; Mq. Cyaneo-viridis, *scutelli spinis nigris,* abdomine nigro-cupreo; *Mas.* alis subcinereis, *pedibus nigro-fuscis geniculis tarsorumque basi flavicantibus,* metatarso postico incrassato; *Fœm.* alis limpidis, *pedibus flavis femoribus ante apicem, tibiis apice tarsorumque articulis secundo ad tertium fuscis.* Long. $2\frac{3}{4}$–3; alar. 6–$6\frac{1}{2}$ lin.

Bright bluish-green, clothed with tawny hairs. Antennæ black. *Scutellum armed with* 6 *or* 8 *black spines.* Halteres luteous. Abdomen coppery black. *Legs tawny. Male.* Wings slightly tinged with grey; stigma brown; veins black, tawny at the base. *Hind tarsi and tips of the hind tibiæ brown. Fem.* Wings colourless; *femora, tibiæ, and fore tarsi partly pale brown.*

Rare; South of England. In Mr. Stephens's collection. (E.)

5. **Morrisii,** Dale, ent. 175. 75 (1842).—*pallipes,* Lw. Cyaneo-viridis, *scutelli spinis nigris,* alis sublimpidis, abdomine nigro-cupreo, *pedibus flavis, tarsorum articulis secundo ad quintum fuscis; Fœm.* fronte angusta. Long. $3\frac{1}{2}$–$3\frac{3}{4}$; alar. $6\frac{1}{2}$–7 lin.

Bright bluish-green, clothed with tawny hairs. Antennæ black. *Scutellum armed with* 6 *or* 8 *black spines.* Wings almost colourless; stigma dark brown; veins black, tawny at the base. Halteres luteous. Abdomen coppery-black. *Legs pale yellow; tarsi brown; anterior metatarsi tawny. Male. Tips of the tibiæ brown. Fem.* Front narrow. *Hind metatarsi tawny.*

Rare; South of England. In the British Museum. (E.)

6. **geniculata,** Hal.; Ct. b. e.! 337 (1830). Cyaneo-viridis, capite nigro-viridi, antennarum articulo tertio ferrugineo, *scutelli spinis viridibus,* abdomine *pedibusque nigris, genubus fulvis; Mas.* alis nigricantibus; *Fœm.* alis cinereis. Long. 3–$3\frac{1}{4}$; alar. 6–$6\frac{1}{2}$ lin.

Bright bluish-green. Head greenish-black. Antennæ black; third joint dark ferruginous. *Scutellum armed with* 6 *green spines.* Halteres luteous. Abdomen black, clothed with white down. *Legs black; femora, tibiæ, and tarsi at the base and knees tawny. Male.* Wings blackish. *Fem.* Wings grey.

Rare. (E. S. 1.)

Genus II. **ACTINA.**

Actina, Ct. b. e. 337 (1830). *Stratiomys* p., Ftr. *Actina* p., Mg. olim. *Xylophagus* p., Ll. *Beris* p., Mg.; Mq.; Lw.

Corpus oblongum, angustum. Color metallicus, abdomine interdum pallido; pictura nulla. Oculi remoti. Palpi longi, triarticulati. Scutellum spinis armatum. Alarum venæ 3 longitudinales, præter areolam analem subrectangulam longe retractam, in marginem interiorem alæ descendentes; vena quarta longitudinalis abbreviata; *vena cubitalis undulata; furca brevis.* Tibiæ muticæ.

Body narrow. Colour mostly metallic. Eyes remote in both sexes. Head depressed. *Palpi long*, triarticulate, somewhat thicker towards the tips. Antennæ 10-jointed, *long-fusiform*, approximate, diverging, a little longer than the head; third and following joints forming a long-conical flagellum. *Scutellum armed with spines.* Wings finely pubescent; third, fourth, fifth, and sixth posterior areolets open to the border; fourth and sixth more or less united; anal areolet remote from the border; *cubital vein undulating, its fork short.* Tibiæ without spurs.

The flies of this genus inhabit woods; they are nearly allied to *Beris*, and have the same habits.

1. **tibialis,** Mg. zw. ii. 3. 2 (1820); Lw. Viridis, capite nigro antice albo, antennis nigris, articulis secundo et tertio fulvis, scutello spinis quatuor fulvis armato, pedibus flavis; *Mas.* proboscide flava, alis subcinereis, stigmate fusco, abdomine lineari purpureo subtus fulvo, tarsis fuscis basi flavis, femoribus posticis fuscis subtus et apice fulvis, tibiis posticis fuscis clavatis; *Fœm.* proboscide fulva, alis limpidis, stigmate fulvo, abdomine fusiformi fulvo maculis fuscis bivittato, femoribus tibiisque posticis fulvis. Long. 2½; alar. 5 lin.

Body slender, bright green, clothed with very short tawny hairs. Head black, white in front. Antennæ black. Scutellum armed with four tawny spines. Halteres yellow. Legs yellow; tarsi brown, yellow at the base. *Male.* Proboscis yellow. Antennæ with the second and third joints dark tawny. Wings pale grey; stigma brown. Abdomen linear, dark purple, tawny beneath. Hind femora brown, tawny beneath and towards the tips. Hind tibiæ dark brown, clavate. *Fem.* Proboscis tawny. Antennæ with the second and third joints tawny. Wings colourless; stigma tawny. Abdomen fusiform, tawny, with a row of triangular brown spots along each side. Hind femora tawny. Hind tibiæ tawny, with brown tips.

Not common. (E.)

Genus III. **STRATIOMYS.**

STRATIOMYS, Gf. ins. ed. Fcry. (1784); Fb.; Mg.; Pz.; Ll.; Fln.; Mq.; Ztt. *Musca* p., L. *Hirtea* p., Spl. *Odontomyia*, Ll.; Mg.

Corpus ovato-oblongum. Antennæ 7–8-articulatæ; articulus primus secundo longior; *tertius et sequentes ad septimum flagellum subfusiforme*

stylo terminali brevissimo fingentes. Scutellum spinis duabus armatum. Alarum venæ præbrachialis, pobrachialis, et intermediæ non usque ad summum marginem interiorem descendentes.

Body oblong-oval, black, of large or middle size, slightly pubescent. Head semicircular. Epistoma convex, forming a keel. Ocelli 3. Eyes green, often with purple bands. Peristoma small, circular. Proboscis withdrawn. Labrum linear, rounded in front, covering the labium. Lingua as long as the labium? Maxillæ very small, pointed, attached with the labrum to the base of the labium. Palpi triarticulate, diverging, seated on each side in front of the base of the labium; joints cylindrical, of equal length; third somewhat thickened. Labium almost cylindrical. Antennæ 7–8-jointed, porrect, contiguous at the base, diverging, inclined upward; first joint cylindrical, longer than the second; second short, cyathiform; third and all the following forming a fusiform compressed pointed flagellum, which usually forms an angle with the second joint; *eighth joint like a very short style.* Thorax oval; *scutellum* semicircular, *armed with* 2 *short spines.* Wings lanceolate, not pubescent, incumbent, parallel, not covering the sides of the body. Alulæ small, not covering the halteres. Abdomen oval, 5-jointed, flat or but slightly convex, pubescent or almost bare, often with yellow marks on each side, or partly green, which colour prevails chiefly in the smaller species, when it commences beneath and spreads thence over the sides of the back till it occupies the whole surface. Legs slender.

Male. Eyes contiguous; facets larger on the crown than in front. Thorax hairy.

Female. Eyes remote. Thorax almost bare.

These flies feed on the honey of flowers, and appear in the spring and in the summer on aquatic plants: their flight in hot weather is very rapid but short, and they quickly return to the spot whence they took wing. The larvæ are aquatic, and the metamorphose of *S. Chamæleon* has been often observed. Its eggs from white become green, and then change to olive-green; they are arranged like tiles on a roof, one laid partly over another, on the underside of the leaves of *Alisma Plantago,* the water-plantain. The larva often remains suspended by its radiated anus at the surface of the water, with its head downwards. Its ganglions are so near each other as to appear like a string of beads. When it is disposed to sink to the bottom or to descend, by bending the sides of its tail so as to form a concavity it includes in them a bubble of air, in brilliancy resembling silver or pearl, and then sinks with it by its own weight: when it would return to the surface it is by means of this bubble. If it moves upon the surface or horizontally, it bends its body

alternately to the right and left, contracting itself into the form of the letter S, and then extending itself again into a straight line: by these alternate movements it makes its way slowly in the water. It has much resemblance to some of the *Polypi vaginati.* The last joint of the pupa retains the exact form of the larva-body, is extremely long, and terminates in an orifice to receive the air, which is surrounded by a circle of about thirty diverging rays, consisting of beautifully feathered hairs or plumes. The feathery hairs are so prepared as to repel the water, and thus to suspend the animal by its tail at the surface, and preserve a constant access of air. When it has occasion to sink, it turns these hairs in and shuts the orifice, carrying down with it an air-bubble that shines like quicksilver, and, as is conjectured, enables it again to become buoyant when it wants to breathe. The dorsal vessel (series of hearts, or artery) is attenuated at both ends. The ovaries of the fly are agglomerate, and the egg-tubes form two bundles, in which the branches are not discernible.

a. First joint of the antennæ more than six times the length of the second. Species 1.
a a. First joint of the antennæ about four times the length of the second. Species 2–4.
a a a. First joint of the antennæ more than twice the length of the second. Species 5–7.
a a a a. First joint of the antennæ rather longer than the second. Species 8–14.

1. **longicornis,** Spl. e. c. 999 (1763).—*strigata,* Fb.; Shr.; Gm.; Ll.; Pz. fn.! xii. 20; Mg.; Mq.; Ztt.—*villosa,* Mg.—*nubeculosa,* Mg.—*thoracica,* Fb. Nigra, alis fuscis apice margineque postico cinereis, ventre fulvo-vittato, tibiis basi tarsisque fulvis, tibiis posticis fulvis nigro-cinctis; *Fœm.* capite flavo-quadrimaculato. Long. 5–6½; alar. 10–13 lin.

Black. Head and thorax most thickly clothed with ferruginous hairs: eyes very thickly clothed with black hairs. Proboscis dark brown. Antennæ more than twice the length of the head. Scutellum armed with 2 tawny teeth. Wings brown, grey along the hind borders and at the tips. Halteres yellow. Abdomen clothed with hoary hairs on each side, especially towards the base; underside with 4 or 5 pale tawny bands. Tibiæ at the base and tarsi tawny; hind tibiæ tawny with a black band. *Fem.* Head with 4 yellow spots, 2 between and 2 behind the eyes.

Not common. (E.)

2. **Chamæleon,** Dg. ins. vi. 64. 1 (1752); Fb.; Gf. p.; Ro. etr.; fig. Sch. ic. i. ix. 3, 4; Harris, exp. xi. 1. fig.; Mg.; Fln.; Mq.;

Ztt.—*potamida*, Mg.; Mq. Nigro-ænea, capite flavo-bimaculato, scutello flavo aut fulvo bidentato, alis subcinereis basi et ad costam subfulvis, *abdomine nigro flavo-fasciato et utrinque maculato*, ventre flavo, pedibus fulvis, femoribus nigris, tibiis nigro-fasciatis. Long. 6–7; alar. 12–14 lin.

Æneous-black, thickly clothed with tawny hairs. Head with 2 yellow spots in front. Proboscis dark brown. Antennæ black, about twice the length of the head. Scutellum yellow or tawny, armed with 2 tawny teeth. Wings very pale grey, with a tawny tinge at the base and along the fore border. Halteres yellow, *with a brown ring near the base*. Abdomen above deep black, *marked with yellow*: a large triangular spot on each side of the first segment; an often interrupted band on the second; a band on the third, and a spot at the tip; underside yellow, with 4 more or less interrupted black bands. Legs tawny; femora black; a black band on each tibia. *Male*. Spots on the front smaller than in the female. *Fem*. A narrow interrupted yellow band behind the eyes.

Generally distributed. (E. I.)

3. **furcata,** Fb. e. s. iv. 264. 5 (1792); Harris, exp. xii. 2. fig.; Mg.; Mq.; Ztt.—*chamæleon*, L.; Shr.; Pz. fn.! viii. 24; var. Ro. etr.—*panthaleon*, Fln. Nigra, alis subcinereis basi et ad costam fulvis, *abdomine fulvo-7-maculato*, ventre flavo-quinquefasciato, tibiis basi tarsisque fulvis; *Fœm*. capite flavo-unimaculato, scutello fulvo nigro-marginato. Long. 6–7; alar. 12–14 lin.

Black, thickly clothed with tawny hairs. Proboscis dark brown. Antennæ almost twice the length of the head. Wings pale grey, tawny at the base and along half the breadth beneath the fore border. Halteres tawny. *Abdomen with* 3 *more or less triangular tawny spots on each side and* 1 *at the tip*; underside with 5 yellow bands. Tibiæ towards the base and tarsi tawny. *Fem*. Head with a yellow spot behind. Scutellum tawny, black along the fore border, armed with 2 tawny teeth.

Generally distributed. (E. I.)

4. **riparia,** Mg. zw. iii. 138. 6 (1822); Mq.—*strigata*, Mg. kl. Nigra, scutelli margine postico fulvo bidentato, alis fulvis, *abdomine albido-7-maculato*, ventre flavo-quinquefasciato, pedibus nigris, tibiis apice tarsisque fulvis, tarsis anticis obscure fulvis. Long. $4\frac{1}{2}$–5; alar. 9–10 lin.

Black, thickly clothed with tawny hairs. Proboscis dark brown. Scutellum tawny along the hind border, armed with 2 tawny spines, whose tips are black. Wings tawny, paler along the hind borders and at the tips. Halteres tawny. *Abdomen with* 3 *narrow whitish spots on each side and one at the tip*; underside with 5 yellow bands. Tibiæ towards the base and tarsi tawny; fore tarsi dark tawny.

Rare. In Mr. Saunders's collection. (E.)

5. **microleon,** Fb.; Dg.; L. s. n. ii. 980. 4 (1767). Nigra, capite flavo-quadrimaculato, thoracis lateribus fulvis, alis sublimpidis, *abdominis maculis* 6 *apice ventreque fulvis,* tibiis tarsisque flavis. Long. 4½; alar. 8 lin.

Black, clothed with whitish hairs. Borders of the peristoma and 2 large spots on each side pale greenish-yellow. First and second joints of the antennæ, sides and spines of the thorax, tawny. Wings colourless; veins and halteres yellow. *Abdomen with* 3 *triangular yellow spots on each side; tip and underside yellow. Legs yellow; femora black; tips of hind tibiæ piceous.*

Rare. In Mr. E. Brown's collection. (E.)

6. **argentata,** Fb. e. s. iv. 266. 15 (1792); Pz. fn.! xxi. 20. cviii. 10; Ll.; Fln.; Mg.; Ztt. Nigra, alis albis, *abdominis maculis* 6 *apice ventreque fulvis,* tibiis tarsisque fulvis; *Mas. abdomine argenteo,* tibiis nigro-cinctis; *Fœm.* capite antico ferrugineo-maculato. Long. 3½–4; alar. 6–7 lin.

Black, clothed with short tawny hairs. Scutellum armed with 2 tawny spines. Wings white; veins tawny and clouded, brown and clouded about the discoidal areolet. Halteres tawny. *Abdomen with* 3 *tawny spots on each side; tip and underside tawny. Legs tawny; femora black; tips of the tarsi dark brown. Male. Abdomen covered with silvery down*; a black band round each tibia. *Fem.* Head with a ferruginous spot in front. Femora partly tawny.

South of England; not common. (E.)

7. **connexa,** n. s. Nigro-ænea, capite flavo-viridi nigro-maculato, thoracis *abdominisque lateribus* scutelli margine postico *ventreque flavo-viridibus,* alis cinereis ad costam fuscis, *pedibus nigris, tibiis tarsisque basi flavis.* Long. 4½; alar. 8 lin.

Delete

See addn vol III

Allied to *S. flavissima,* Fb. Dull æneous-black. Head yellowish-green, shining, black about the ocelli and about the base of the antennæ, and with a black spot on each side of the crown. Sides of the thorax, hind border, and spines of the scutellum, yellowish-green. Wings grey, brownish towards the fore border, darkest along the costa as far as the stigma. Halteres apple-green. *Borders and underside of the abdomen yellowish-green, which colour forms an angle on the hind border of each segment. Legs black; tibiæ and tarsi towards the base and tips of the femora yellow.*

Very rare. In Mr. Stephens's collection. (E.)

8. **ornata,** Mg. kl. i. 129. 1 (1804); Ll.; Mq.; Ztt. Nigra, antennis ferrugineis basi et ad apices nigris, thorace subchalybeo, scutelli margine postico fulvo, alis albis basi et ad costam subfulvis, *abdomine fulvo-7-maculato* subtus viridi, pedibus fulvis; *Mas.* femoribus nigris apice fulvis, tibiis nigro-cinctis; *Fœm.* capite fulvo-bivittato bimaculato et unifasciato. Long. 6–7; alar. 10–12 lin.

Black. Head clothed in front with pale yellow hairs. Proboscis dark brown. Antennæ dark ferruginous, black at the base and towards the tips. Thorax slightly chalybeous, very thickly clothed with short tawny hairs; hind border of the scutellum tawny, armed with 2 tawny teeth. Wings white, slightly tawny at the base and along the fore border; veins tawny. Halteres pale yellow. *Abdomen with 3 more or less triangular tawny spots on each side; tip tawny*; underside pale green. Legs tawny. *Male.* Femora black, with tawny tips; a black band round each tibia. *Fem.* Head with 2 curved tawny stripes and 2 tawny spots on the crown, and with a tawny or yellow band behind the eyes.

Generally distributed. (E.)

9. **tigrina,** Fb. sp. i. ii. 417. 6 (1781); Shr.; Gm.; Gf.; Pz. fn.! viii. 20; Mg.; Ll.; Mq.—*nigrita,* Fln.; Ztt. *Cyaneo-nigra,* antennis nigris, alis albis basi et ad costam subfuscis, *abdomine subtus viridi,* pedibus fulvis, femoribus nigris, tibiis nigro-cinctis, tarsis apice nigris. Long. 3½–4½; alar. 6–8 lin.

Bluish-black. Head clothed beneath with pale tawny hairs. Proboscis dark brown. Antennæ black. Thorax clothed with ferruginous down. Scutellum armed with 2 tawny spines. Wings white, tinged with brown at the base and along the fore border; veins brown. Halteres pale yellow. *Abdomen green beneath on the disc.* Legs tawny; femora black; a black band round each tibia; tips of the tarsi mostly black above. *Male.* Head clothed in front with black hairs. Eyes hairy. *Fem.* Eyes bare.

Generally distributed. (E.)

10. **hydropota,** Mg. zw. iii. 147. 16 (1822); Mq.; Ztt. Nigra, capite luteo, antennis ferrugineis aut nigris, *scutello fulvo, abdominis lateribus ventreque viridibus,* pedibus fulvis. Long. 4–4½; alar. 9–10 lin.

Head luteous, shining. Antennæ ferruginous or black. Thorax æneous, covered with golden down. *Scutellum and its spines tawny.* Wings whitish; veins tawny. Halteres tawny, with apple-green knobs. *Abdomen green, with a very broad dorsal black stripe which is contracted on the hind border of each segment.* Legs tawny.

Rare. In the British Museum. (E.)

11. **hydrodromia,** Mg. zw. iii. 146. 15 (1822); Mq. Nigra, alis limpidis ad costam fulvis, *abdominis maculis 6 ventreque flavis,* tibiis piceis basi fulvis, tarsi fulvis apice piceis. Long. 4; alar. 9 lin.

Black, thickly clothed with tawny down. Wings colourless, tawny along the fore border till near the tips; veins and halteres tawny. *Abdomen adorned on each side with three somewhat triangular yellow spots, which successively decrease in size from the base*; underside yellow. Tibiæ piceous, tawny towards the base; tarsi tawny, with piceous tips.

Rare. In Mr. Stephens's collection. (E.)

12. **hydroleon,** L. s. n. ii. 980. 5 (1767); Dg.; Fb.; Shr.; Gm.; Gf.; Pz. fn.! viii. 21; Mg.; Ll.; Fln.; Mq.; Ztt.—*angulata,* Pz. fn.! viii. 19; Mq. Nigra, antennis nigris basi fulvis, *scutelli margine postico fulvo,* alis limpidis, *abdomine fulvo vitta dorsali nigra,* pedibus fulvis. Long. 5; alar. 9½ lin.

Scapula in front of the head ferruginous; sides of the peristoma yellow. Mouth black. Antennæ black; first and second joints tawny. Thorax clothed above with tawny hairs, beneath with white hairs; *spines and hind border of the scutellum tawny.* Wings colourless; veins, alulæ and halteres yellow. *Abdomen tawny, with a broad black dorsal stripe which is contracted towards the hind border of each segment, and ends before the tip.* Legs tawny. *Male.* Head black, clothed in front with white hairs. Thorax black. *Fem.* Head luteous. Thorax æneous.

Very rare. In the British Museum. (E.)

13. **viridula,** Fb. sp. i. ii. 418. 8 (1781); Shr.; Gm.; Pz. fn.! viii. 18; Ll.; Fln.; Mg.; Mq.; Ztt.—*canina,* Pz.; fn.! viii. 23. Mg. —*marginata,* Fb.—*dentata,* Mg. Nigra, alis albis basi et ad costam subfulvis, *abdomine viridi nigro-vittato,* pedibus fulvis. Long. 2½–3; alar. 5–6 lin.

Black, clothed with tawny hairs. Scutellum armed with 2 tawny spines. Wings white, with a slight tawny tinge at the base and along the fore border; veins tawny. Halteres tawny, with green knobs. *Abdomen green, with a black dorsal stripe* which irregularly widens from the base to the tip, and varies in breadth. Legs tawny. *Male.* Head much larger than that of the female. *Fem.* Stripe of the abdomen much broader than that of the male, sometimes occupying the whole surface.

Generally distributed. (E. S. I.)

14. **subvittata,** Mg. zw.! iii. 150. 19. pl. 26. f. 15 (1822). Nigra, alis albis basi et ad costam subfulvis, *abdomine viridi nigro-maculato,* pedibus fulvis. Long. 3½; alar. 7 lin.

Black. Antennæ black or ferruginous. Thorax clothed with tawny hairs; spines of the scutellum tawny. Wings white with a slight tawny tinge at the base and along the fore border; veins tawny. Halteres tawny, with green knobs. *Abdomen green, with a narrow, much interrupted black stripe which is widened into two short bands towards the tip.* Legs tawny.

Rare. In the British Museum. (E.)

Genus IV. **OXYCERA.**

Oxycera, Mg. zw. iii. (1822); Mq.; Ct.; Ztt.; Stg.; Lw. *Musca* p., L.; Spl.; Dnv. *Stratiomys* p., Fb.; Gm.; Prylsr.; Pz.; Fln.

Corpus minoris magnitudinis, oblongo-ovatum, tenuissime pubescens, abdomine depresso, rotundato. Color niger; pictura thoracis vittatim, abdominisque fasciatim vel ad latera maculatim, flava vel viridi. *Antennæ* 8-*articulatæ*, porrectæ; articuli tertio ad sextum flagellum fusiforme fingentes; septimus brevis; octavus *longus*, *stylatus*. *Scutellum bispinosum*.

Mas. Oculi conjuncti, pubescentes.

Fœm. Oculi remoti, nudi.

Body oblong, pubescent, small, black and yellow, or green and black. Head semicircular. Ocelli 3. Proboscis withdrawn. Labrum short, broad, hollow, emarginate at the tip. Palpi short, linear, membranous, compressed, thickened, opake and pubescent at the tips. Labium terminating in 2 hairy transversely striated lobes. *Antennæ* 8-*jointed*, porrect, pubescent, somewhat shorter than the head, seated on the middle of the face, approximate at the base; the first and second joints short, bristly, almost cylindrical; third, fourth, fifth, and sixth joints forming a fusiform flagellum; seventh short, seated very near the tip of the sixth; eighth forming a long style. Thorax oval. *Scutellum armed with two spines*. Wings lanceolate, incumbent, parallel, very finely pubescent. Alulæ very small. Halteres uncovered; club large. Abdomen with five segments, oval, somewhat convex, broader than the thorax. Legs slender, of equal size; tibiæ a little thickened in the middle, forming a slight notch on the inside; onychia small.

Male. Eyes contiguous, hairy, red and composed of large facets above, green and with small facets in front.

Fem. Eyes remote, bare.

These flies move slowly, and dwell on the leaves of trees and on flowers.

1. **rara,** Spl. e. c. 333. 912 (1763).—*hypoleon*, Mg.; Dnv.;—Stg. *pulchella*, Mg.; Mq.; Stg.; Lw.! d. b. 14. 3. f. 5, 6. Nigra, scutello flavo, alis limpidis, abdominis maculis quinque ventreque flavis, *pedibus flavis*, *femoribus nigris*; *Mas*. antennis fuscis, thorace flavo-bivittato; *Fœm*. antennis fulvis, thorace flavo-quadrivittato. Long. $2\frac{1}{2}$–$2\frac{3}{4}$; alar. 5–6 lin.

Black. Head and thorax clothed with pale hairs. Proboscis tawny. Thorax with a broad interrupted yellow stripe on each side; scutellum yellow. Wings colourless. Halteres very pale yellow. Abdomen with 2 yellow converging rays on each side and a yellow spot at the tip; *disc beneath yellow*. *Legs yellow; femora and tips of the tarsi black*.

Generally distributed. (E. I.)

2. **Falleni,** Stg. e. z. v. 410. 3 (1844); Lw.! d. b. 13. 2. f. 3, 4. *hypoleon*, Ztt.; Dnv.? Gm.? Nigro flavoque varia, *pedibus flavis*, *femoribus anticis basi nigris*. Long. $2\frac{3}{4}$; alar. 6 lin.

Black, varied with yellow. *Legs yellow*; fore femora black at the base.

Rare. In Mr. Haliday's collection. (I.)

3. **dives,** Lw.! d. b. 15. 4. f. 7, 8 (1846).—*hypoleon,* Shr.? Nigra, capite flavo-quadrimaculato, thorace interrupte flavo-bivittato, scutello flavo, alis subcinereis ad costam subfulvis, abdomine flavo-quinquemaculato, *pedibus nigris, tibiis basi apiceque fulvis, tarsis fuscis; Mas.* thorace interrupte flavo-bivittato; *Fœm.* thorace flavo-quadrivittato. Long. $2\frac{3}{4}$; alar. 6 lin.

Black. Head and thorax clothed with pale hairs. Head with four large yellow spots, one on each side of the crown, and one on each side behind the eyes. Proboscis tawny. *Antennæ black.* Thorax with a much interrupted yellow stripe on each side; scutellum yellow. Wings pale grey, with a slight tawny tinge along the fore border. Halteres pale yellow. Abdomen with 2 nearly round yellow spots on each side and with a transverse yellow spot at the tip. *Legs black; tibiæ tawny at the base and at the tips; tarsi dark brown. Fem.* Thorax with 2 slightly interrupted yellow stripes in the disc.

Rare. In the collection of the Entomological Club. (E.)

4. **trilineata,** L. s. n. ii. 980. 6 (1767); Fb.; Shr.; Pz.! fn. i. 13; Mg.; Ll.; Fln.; Mq.; Ztt. *hypoleon v.*, L. Viridis, peristomate nigro, antennis fulvis, *thoracis disco nigro viridi-bivittato,* metathorace nigro, alis albis, abdominis disco nigro viridi-trimaculato lateribus nigro-quinquemaculatis, pedibus fulvis. Long. $2\frac{1}{2}$–3; alar. 5–6 lin.

Green, clothed with short whitish hairs. Head yellowish-green; peristoma black. Eyes purple and green. Proboscis yellow. Antennæ tawny. *Disc of the thorax black, with 2 green stripes.* Metathorax black. Wings white; veins pale yellow. Halteres bright green. Disc of the abdomen black, including 3 green spots, emitting 2 narrow black bands on each side, and succeeded by a narrow black band near the tip. Legs tawny. *Male.* Eyes above coppery, and composed of large facets.

Generally distributed. (E. I.) In addenda Vol. III

5. **pardalina,** Mg.! zw. iii. 128. 6. pl. 25. f. 30, 31 (1822); Ztt. Nigra, antennis fulvis apice nigris, *thoracis vittis maculisque duabus scutelloque flavis,* alis limpidis ad costam subfulvis, abdomine flavo-quinquemaculato, pedibus fulvis, tarsis anticis fuscis; *Fœm.* capite flavo-bivittato et sex-maculato, thoracis disco flavo-bivittato. Long. $2\frac{1}{4}$–$2\frac{1}{2}$; alar. $4\frac{1}{2}$–5 lin.

Black. Proboscis tawny. Antennæ tawny, with black tips. *Thorax with a yellow stripe on each side, and with a yellow spot near the base of each wing; scutellum yellow,* armed with 2 tawny teeth. Wings colourless, with a tawny tinge along the fore border; veins tawny. Halteres yellow. Abdomen with 2 pale yellow spots on each side and one at the tip. Legs tawny; coxæ, fore tarsi, and tips of the other tarsi

brown. *Male.* Eyes hairy. *Fem.* Head with 2 yellow stripes in front, with 4 yellow spots on the crown, and with a yellow spot on each side behind the eyes. Thorax with 2 yellow stripes on the disc.

Not rare. (E. I.)

6. **formosa,** Wdn.; Mg. zw. iii. 127. 5 (1822); Mq. Nigra, *thoracis lateribus interrupte flavo-vittatis, scutello flavo,* alis limpidis, abdominis apice pedibusque flavis; *Mas.* abdominis maculis utrinque duabus connexis flavis; *Fœm.* capitis vittis duabus fasciaque interrupta flavis, abdominis maculis utrinque tribus connexis flavis, ventre plerumque flavo. Long. $1\frac{1}{2}$; alar. $3\frac{1}{2}$ lin.

Black. Head and thorax clothed with short whitish hairs. Proboscis yellow. *Thorax with a broad interrupted yellow stripe on each side; scutellum yellow.* Wings colourless; veins pale buff. Halteres yellow. Abdomen with a yellow spot at the tip. Legs yellow. *Male.* Abdomen with two yellow connected spots on each side. *Fem.* Head with a yellow stripe on each side of the crown, and with an interrupted yellow band behind the eyes. Thorax with 2 slender yellow stripes on the disc. Abdomen with 3 yellow connected spots on each side; underside mostly yellow.

Not rare. (E. I.)

7. **muscaria,** Fb. e. s. iv. 268. 21 (1794); Pz.! Mg.; Mq.—*pygmæa,* Fln.; Mg.; Ztt.—*affinis,* Dale; Ct. Nigra, *thorace flavo-bivittato,* alis limpidis, *abdomine flavo-quinquemaculato,* ventre plerumque flavo, pedibus fulvis, tibiis posticis femoribusque nigris, tibiis anterioribus nigro-cinctis, tarsis nigris posterioribus basi flavis; *Fœm.* capitis vittis duabus fasciaque interrupta flavis. Long. $1\frac{1}{4}$; alar. 3 lin.

Black. Head covered in front with silvery down. Proboscis yellow. *Thorax with a yellow stripe on each side.* Scutellum yellow, sometimes partly or wholly black. Wings colourless; veins pale tawny. Halteres pale yellow. *Abdomen with 2 connected yellow spots on each side, and 1 at the tip*; underside mostly yellow. Legs tawny; femora and hind tibiæ black; a black band on each of the anterior tibiæ; tarsi black; posterior tarsi yellow towards the base. *Fem.* Head with two yellow stripes on the crown, and with a yellow interrupted band behind the eyes.

Not rare. (E. I.)

8. **Morrisii,** Ct.! b. e. x. (1833). Nigra, *thorace interrupte albido-bivittato, scutelli apice ochraceo,* abdomine flavo-quinquemaculato, pedibus flavis, tibiis posticis femoribusque plerumque nigris, tarsis nigris posterioribus basi albidis. Long. $2\frac{1}{2}$; alar. 5 lin.

Black, shining, thickly and minutely punctured, covered with very short grey down. Proboscis ochreous. *Thorax with a whitish stripe on each side, forming a minute spot in front, a larger spot before the base of each wing, and a third spot behind it. Hind border and spines of the scutellum ochreous.* Wings colourless; stigma yellowish-brown; veins brown along the costa. Halteres white. Abdomen with an oblique

yellow spot on each side of the third and fourth segments, and with a triangular yellow spot at the tip. Legs yellow; femora black, yellow at each end; hind tibiæ black, yellow at the base; tarsi black; posterior tarsi whitish at the base.

Rare. (E. I.) In Mr. Curtis's and Mr. Dale's collections.

9. **terminata,** Mgrle.; Mg. zw. iii. 130. 9 (1822). Nigra, *thorace flavo-bivittato,* scutello flavo, alis limpidis, *abdominis vittis duabus posterioribus flavis,* tarsis posticis basi femoribusque fulvis; *Fœm.* capite vittis 2 maculisque 4 flavis. Long. $2\frac{1}{2}$; alar. 5 lin.

Black. Head and thorax clothed with a few short whitish hairs. Proboscis tawny. Thorax with a yellow curved stripe on each side; scutellum yellow. Wings colourless; veins tawny. Halteres pale yellow. *Abdomen with a narrow yellow border from the middle to the tip.* Femora tawny; hind tarsi tawny towards the base. *Fem.* Head with a short yellow stripe on each side of the antennæ, and with 4 yellow spots behind the eyes.

Rare. In Mr. Curtis's collection. (E.)

10. **analis,** Mgrle.; Mg. zw. iii. 130. 10 (1822). Nigra, *thorace ad alas fulvo, alis subcinereis fusco unimaculatis, abdominis apice flavo,* pedibus flavis, tibiis posticis femoribusque nigris. Long. 2; alar. 4 lin.

Black. Head and thorax thickly clothed with short hoary hairs. Eyes hairy. Proboscis tawny. *Thorax dark tawny at the base of each wing*; spines of the scutellum yellow. *Wings very slightly tinged with grey; a brown spot on each beneath the stigma*; veins tawny. Halteres yellow. *Abdomen with a yellow tip.* Legs yellow; femora and hind tibiæ black; tarsi tawny towards the tips.

Rare. In Mr. Curtis's collections. (E.)

11. **longicornis,** (Hal. MSS.) Atra, nitens, *antennis capite longioribus*; thoracis vittis duabus lateralibus scutelloque flavis, alis limpidis, pedibus piceis, tibiis basi femoribusque fulvis. Long. $1\frac{1}{4}$; alar. $3\frac{1}{2}$ lin.

Black, shining. Antennæ longer than the head. Thorax with a yellow stripe on each side; scutellum yellow. Wings colourless. Halteres yellow. Legs tawny; tibiæ and tarsi piceous, the former tawny towards the base.

Rare; inhabits Dorsetshire. In Mr. Dale's collection. (E.)

x see addenda Vol III

Genus V. **CLITELLARIA.**

CLITELLARIA, Mg. zw. iii. 119 (1822). *Musca* p., Sch.; Hbst.; Shr.; Gm.; Gf. *Stratiomys* p., Fb.; Shr.; Pz. *Ephippium,* Ll.; Mq.

Corpus oblongo-ovatum. *Antennæ* 9-articulatæ; articuli primus et secundus æquales; tertius et sequentes ad septimum flagellum obclavatum

fingentes; octavus brevis; nonus stylatus. Alarum venæ longitudinales usque ad alæ marginem summum descendentes.

Mas. Oculi approximati.

Fœm. Oculi remoti.

Body nearly oval, generally rather large, mostly black. Head almost semicircular. Proboscis withdrawn. Labrum short, flat. Palpi triarticulate, clavate, hairy. Labium short, thick, cylindrical. *Antennæ 9-jointed,* porrect, almost as long as the head, approximate at the base, diverging upwards; first and second joints bristly; first short, almost cylindrical, somewhat thicker at the tip; second cyathiform, as long as the first; third and following a long obclavate flagellum; eighth short; ninth long, stylate. Thorax almost oval; *scutellum* semicircular, *armed with spines.* Wings lanceolate, incumbent, parallel, finely pubescent. Alulæ very small. Halteres uncovered. Abdomen oval, with five segments, slightly convex.

Male. Eyes contiguous.

Fem. Eyes remote.

These flies are rare; they dwell on the trunks of trees; their larvæ live on decayed wood.

1. **ephippium,** Fb. sp. i. 417. 2 (1781); Sch.; Hbst.; Shr.; Gm.; Gfr.; Pz.! fn. viii. 23; Mg.—*Inda,* Shr.—*thoracicum,* Ll.; Mq. Atra, thoracis disco ferrugineo-hirto, alis nigricantibus, halteribus flavis. Long. 5½; alar. 12 lin.

Deep black. Body clothed with short black hairs. Head clothed above with dull tawny hairs. Thorax thickly clothed with bright ferruginous hairs. Wings blackish, palest along the hind borders. Halteres bright yellow.

Very rare; has been found in Coombe wood, Surrey, and in Darenth wood, Kent. In the British Museum, and in Mr. Desvignes's collection. (E.)

Genus VI. **NEMOTELUS.**

NEMOTELUS, Gfr. ins. ii. (1784); Fb.; Mg.; Pz.; Ll.; Fln; Mq.; Ct.; Ztt. *Musca* p., L.; Gm. *Stratiomys* p., Fb.; Shr.

Corpus oblongum, minoris magnitudinis, tenuiter pubescens, nitidum. Color niger; pictura albo fasciata vel punctata. *Epistoma porrectum, conicum.* Oculi nudi. Antennæ 8-articulatæ, porrectæ; articuli tertius et sequentes flagellum fusiforme fingentes; septimus brevis; octavus stylatus. *Scutellum inerme.* Alarum areola discoidalis venas 4 emittens, fere in marginem interiorem summum descendentes.

Body shining, oblong, rather small, finely pubescent. Colour black, often with white bands or spots. Head as broad as the thorax or nearly so. *Epistoma porrect, conical.* Eyes bare. Proboscis withdrawn.

Labrum horny, stout, small, hollow, acute. Labium long, slender, geniculated near the base, terminating in 2 very long lobes with membranaceous and slightly bristly edges. Antennæ 8-jointed, porrect, contiguous, seated close to the tip of the epistoma, diverging, shorter than the head, clothed with very short hairs; first and second joints bristly, cylindrical or somewhat clavate; second longer than the first; third and following joints forming a fusiform flagellum; seventh short; eighth stylate. Thorax almost quadrangular, very slightly convex. *Scutellum* semicircular, *unarmed.* Wings lanceolate, incumbent, parallel, not pubescent. Alulæ small. Halteres uncovered. Abdomen with 5 segments, short, elliptical, flat or but slightly convex, incurved at the tip, broader than the thorax. Legs slender; ungues short and stout.

Male. Eyes approximate, red and composed of large facets above, green and of small facets in front.

Fem. Eyes remote, of small facets. Epistoma longer than that of the male.

These flies are slow in their movements; they inhabit flowers or rushes and grasses on marshy ground during the spring and the summer.

1. **uliginosus,** L. s. n. 11. 982. 22 (1767); Fb.; Mg.; Fln.; Mq.; Ztt.—*muticus,* Fb.—*bifasciatus,* Mg.; Ztt. Niger, *thorace albo-bivittato,* alis albis, pedibus fulvis, tibiis posticis femoribusque nigris; *Mas.* capite flavo unimaculato, abdomine albo ad apicem nigro-bifasciato subtus nigro-marginato; *Fœm.* abdomine albo-marginato maculis albis vittato. Long. 2; alar. 4 lin.

Black; *a white irregular stripe along each side of the thorax.* Wings white; veins pale tawny. Halteres yellow. Legs tawny; femora black, with tawny tips; hind tibiæ black, tawny at the base and at the tips. *Male.* Head with a triangular yellow spot above the antennæ. *Abdomen white*; 2 *black bands near the tip*; underside, excepting the disc, black. *Fem.* Abdomen black above; border white; a row of white spots along the back; sometimes a row of short white bands along each side.

Generally distributed. Common in salt marshes by the seashore. (E. S. I.)

2. **pantherinus,** L. fn. 1783 (1761); Gm.; Mg.! zw. iii. 115. 2. pl. 25. f. 20; Mq.; Ztt.—*marginatus,* Fb.; Pz.! Ll.; Fln.—*uliginosus,* Mg.; Ll.; Pz.!—*muticus,* Shr.—*marginellus,* Gm.; Fln. Niger, alis albis, pedibus fulvis, tibiis posticis femoribusque nigris; *Mas.* capite flavo-unimaculato, abdomine albo ad apicem nigro-maculato subtus nigro-marginato; *Fœm.* abdomine supra nigro albo-marginato maculis albis vittato. Long. $1\frac{3}{4}$; alar. $3\frac{1}{2}$ lin.

Very nearly allied to *N. uliginosus. Black.* Wings white; veins pale tawny. Halteres yellow. Legs tawny; thighs black, with tawny tips; hind tibiæ black, tawny at the base and at the tips. *Male.* Head with

a triangular yellow spot above the antennæ. *Abdomen white, with a black spot near the tip*; underside black, excepting the disc. *Fem.* Abdomen black above; border white; a row of white spots along the back, and sometimes a row of short white bands along each side.

Not very common.

3. **brevirostris,** Mgrle.; Mg. zw. iii. 117. 6 (1822); Mq. Cyaneo-niger, antennis nigris, *thorace albo-bivittato*, alis albis, *abdomine maculis fulvis trivittato*, pedibus fulvis, femoribus nigris, tibiis nigro-cinctis. Long. 2½; alar. 4 lin.

Bluish-black. Proboscis and antennæ black. *Thorax with a white irregular stripe along each side.* Wings white; veins pale tawny. Halteres yellow. *Abdomen with* 3 *rows of tawny spots, which are connected along each side.* Legs tawny; femora black, with tawny tips; a black band on each hind tibia.

Rare. In the collection of the Entomological Club. (E.)

4. **nigrinus,** Fln. str. 6. 3 (1814); Mg.; Mq.; Ct.! b. e. 729; Ztt.—*nigritus*, Pz.! fn. cvii. 17. *Niger*, alis albis, tibiis tarsisque basi fulvis. Long. 1½; alar. 3 lin.

Black. Wings white; veins pale tawny. Halteres yellow. Tibiæ and tarsi tawny towards the base.

Generally distributed, but not common. (E. I.)

Genus VII. **PACHYGASTER.**

PACHYGASTER, Mg. kl. i. 146 (1804); Mq.; Ct.; Duf.; Ztt. *Vappo*, Ll.; Fb. *Nemotelus* p., Pz. *Sargus* p., Fln.

Corpus parvum, ovatum, glabriusculum, punctulatum. Color niger, absque pictura. *Epistoma declive.* Antennæ 7-articulatæ, clavatæ; articuli tertius et sequentes flagellum globosum fingentes; octavus setiformis, subterminalis. *Scutellum inerme.* Alarum areola discoidalis venas 3 obsoletissimas fere usque in marginem interiorem descendentes emittens.

Body small, oval, wholly black, shining, almost bare. *Epistoma perpendicular.* Eyes dark green. Proboscis withdrawn, shorter than the head. Labrum small, robust, cylindrical, hollow beneath, dilated at the base, obtuse and notched at the tip. Tongue acute, attenuated from the base, half the length of the labrum. Maxillæ filiform, long, slender, acute, as long as the labrum. Palpi very minute, oblong, cylindrical, subclavate, slightly pilose, diverging. Labium large, oval. *Antennæ* 8-*jointed*, hairy, porrect, approximate at the base, seated rather low on the head, not far from the peristoma, diverging upwards; first and second joints very short; first almost cylindrical; second cya-

thiform, broader than the first; third and following much broader than the second, forming a globose somewhat compressed flagellum; seventh extremely minute; *eighth setiform*, rather hairy at the base, seated near the tip of the flagellum. Thorax obovate, rather long, with a transverse suture. *Scutellum unarmed.* Wings long, lanceolate, finely pubescent, incumbent, parallel; veins indistinct. Alulæ small. Halteres large, ovate. Abdomen with 5 segments, large, nearly globular, bare, convex above, flat beneath, broader than the thorax. Legs slender. *Male.* Eyes contiguous. *Fem.* Eyes remote. Ocelli more in front of the head than those of the male.

These flies move slowly, and inhabit flowers, hedges, and thickets, in the summer; their larvæ feed on decayed wood; one species on that of the elm.

1. **ater,** Fb. s. a. 254. 1 (1805); Ll.; Pz.! fn. iv. 5; Mg.; Mq.; Ztt.—*pachygaster*, Fln. Niger, *alis albidis basi nigris*, pedibus flavis, femoribus nigris; *Mas.* antennis nigris; *Fœm.* antennis fulvis. Long. 1½; alar. 3 lin.

Black, shining. Proboscis tawny. *Wings whitish, tinged with black for half the length from the base*; veins pale yellow. Halteres dark brown. Legs yellow; femora black. *Male.* Antennæ black. *Fem.* Antennæ tawny.

Rare. (E.)

2. **Leachii,** Ct.! b. e. 1. 42 (1824).—*pallipennis*, Mq.; Ztt. Niger, antennis fulvis, *alis albis*, pedibus flavis, tibiis posticis apice fusco-maculatis. Long. 1½; alar. 3 lin.

Black, shining. Proboscis and antennæ tawny. *Wings white*; veins and halteres pale yellow. Legs yellow; a brown spot near the tip of each hind tibia.

Rare. (E. I.)

Genus VIII. **CHRYSOMYIA.**

CHRYSOMYIA, Mq. d. 1. 262 (1834); Ztt. *Musca* p., Fb.; Shr. *Nemotelus* p., Deg. *Rhagio* p., Shr. *Sargus* p., Fb.; Mg.; Fln.; Ct. *Chloromyia*, Dcn.

Corpus mediæ aut minoris magnitudinis, oblongum, parum pubescens. Color metallicus, aureo-viridis. Pictura nulla. *Epistoma declive.* Ocelli in vertice approximati. Antennæ 6-articulatæ; articuli tertius et sequentes flagellum ellipticum fingentes; sextus setiformis, terminalis. *Scutellum inerme.* Alarum areola discoidalis venas 4 obsoletas emittens, vix in summum marginem interiorem extensas. Abdomen ovale. *Mas.* Oculi contigui. *Fœm.* Oculi remoti.

Body of middle or small size, oblong, smooth, shining, slightly pubescent, wholly metallic, bluish or golden green. Head semicircular, sometimes rather depressed in front. *Epistoma perpendicular.* Eyes large, green, often with purple bands. Ocelli 3, close together on the crown. Proboscis concealed. Labrum very short, flat, hollow, rounded and emarginate at the tip. Palpi 3-jointed, diverging; first and second joints cylindrical, short; second thicker and shorter than the first; third oval, pubescent. Labium large, cylindrical, short. Antennæ 6-jointed, porrect, short, pilose, seated on the middle of the head in front, approximate at the base, inclined upwards, diverging towards the tips; first joint almost cylindrical; second cyathiform, bristly, somewhat compressed, thicker than the first; third and three following forming an elliptical flagellum; sixth setiform, seated on the tip of the fifth. Thorax oval, pubescent; *scutellum* semicircular, *unarmed.* Wings lanceolate, pubescent, incumbent, parallel. Alulæ none. Halteres uncovered. Abdomen with 5 segments, flat, rather short and broad. Legs slender; metatarsus almost as long as the other 4 joints.

Male. Eyes contiguous.

Fem. Eyes remote.

The *Chrysomyiæ* are sluggish; inhabit flowers and the leaves of trees; the larvæ of the second division feed on decaying vegetable matter, and the flies are not uncommon about hot-beds.

a. Body of middle size. Eyes hairy in both sexes. Species 1.

a a. Body small. Eyes bare in both sexes. Abdomen nearly round. *Male.* Eyes reddish-cupreous and composed of large facets above, æneous and with small facets in front. *Fem.* Eyes wholly æneous and composed of small facets. Species 2–4.

1. **formosa,** Shr. ia. 899 (1781); Mg.; Mq.; Ztt.—*cupraria,* Spl.? (1763).—*flavo-geniculata,* Dg.—*aurata,* Fb.; Mg.—*xanthoptera,* Mg.; Fb.; Latr.; Fln. Cyaneo-viridis, capite antennisque nigris, alis fulvis, pedibus nigris, femoribus apice tibiisque basi fulvis. Long. 3–4; alar. 6–8 lin.

Head black. Eyes golden-green; upper part purple, between which colour and the green there is a narrow blue and purple band. Proboscis and antennæ black. Thorax bright bluish-green. Wings tawny; veins darker. Halteres luteous. Legs black; tips of the femora and tibiæ towards the base tawny. *Male.* Body thickly clothed with tawny hairs. Eyes thickly clothed with short black hairs. Abdomen golden-green, dark green beneath. *Fem.* Less hairy than the male. Abdomen purple, blue along each side; rarely bluish-green, æneous-green along each side.

Generally distributed. (E. S. I.)

2. **polita,** L. s. n. ii. 894. 93 (1767); Fb.; Mg.; Fln.; Mq.; Ztt.—*aurata,* Deg.—*splendens,* Mg.—*cyanea,* Fb. Æneo-viridis vel cyaneo-

viridis, *antennis nigris*, alis limpidis, *pedibus nigris, genubus tarsisque fulvis, tibiis tarsisque anticis subfuscis; Mas.* proboscide fulvo; *Fœm.* proboscide fusco. Long. $1\frac{3}{4}$–2; alar. 4–$4\frac{1}{2}$ lin.

Body bright coppery-green or bluish-green, clothed with very short whitish hairs. Eyes green, here and there reddish-purple. *Antennæ black.* Wings colourless, sometimes pale brown along the fore border; veins pale brown. Halteres yellow or tawny. Abdomen sometimes purple. *Legs black; knees and tarsi tawny; fore tibiæ tawny; fore tarsi pale brown. Male.* Proboscis tawny. *Fem.* Proboscis brown.

Generally distributed. (E. S. I.)

3. **pallipes,** Mg. zw. vi. 311. 31 (1830); Ztt.—*politus* var., Fln. Viridis, *antennis fuscis basi fulvis*, thoracis lateribus flavo-vittatis, alis limpidis, *pedibus fulvis, femoribus posterioribus nigris, tibiis posticis apice fuscis.* Long. $1\frac{1}{2}$–$1\frac{3}{4}$; alar. $3\frac{1}{2}$–4 lin.

Bright green, sometimes coppery or bluish-green. Proboscis tawny. *Antennæ brown; first and second joints tawny.* Thorax with a yellow stripe along each side. Wings colourless; veins pale tawny. Halteres yellow or tawny. *Legs tawny; posterior femora mostly black or greenish-black; hind tibiæ brown towards the tips.*

Generally distributed. (E. S.)

4. **flavicornis,** Mg. zw. iii. 112. 10 (1822); Mq.—*polita* v., Ztt.—*pallipes* v., Ztt. Viridis, *antennis fulvis, thoracis lateribus flavo-vittatis*, alis limpidis, *pedibus fulvis, femoribus posterioribus nigris, tibiis posticis apice fusco-cinctis.* Long. $1\frac{1}{4}$–$1\frac{1}{2}$; alar. 3–$3\frac{1}{2}$ lin.

Bright green or bluish-green. Proboscis and *antennæ tawny. Thorax with a yellow stripe along each side.* Wings colourless, sometimes pale tawny along the fore border; vein pale tawny. Halteres yellow or tawny. Abdomen sometimes bright cupreous or cupreous-black. *Legs tawny; posterior femora more or less black; hind tibiæ most frequently with a brown band near each tip.*

Generally distributed. (E. S.)

5. **cyaneiventris,** Ztt. d. s. i. 156. 4 (1842). Aureo-viridis, *antennis* halteribus *pedibusque flavis, abdomine violaceo, femoribus posterioribus late nigro-cinctis*; *Fœm.* fronte violacea. Long. $1\frac{1}{4}$; alar. 3 lin.

Golden-green. Antennæ and halteres yellow. Abdomen violet. Legs yellow; a broad black band on each of the posterior femora. *Fem.* Front violet.

Rare. In Mr. Haliday's collection. (I.)

Genus IX. SARGUS.

Sargus, Fb.; Mg.; Ll.; Fln.; Mq.; Zt. *Musca* p., L.; Spl.; Fb.; Gm.; Gf.; Shr. *Nemotelus* p., Deg. *Rhagio* p., Shr.

Corpus elongatum, mediae magnitudinis, sublineare, abdomine basi sensim angustato, tenuiter pubescens, nitidum, subdepressum. Color metallicus, viridescens, aureo-splendidus; pictura nulla. *Epistoma* declive. Oculi nudi, remoti, ovati. *Antennae* 6-*articulatae*; articuli tertius et sequentes flagellum fingentes suborbiculare; sextus setiferus, subterminalis. *Scutellum inerme*. Areola discoidalis venae 4 distinctiores eminens, fere usque in summum marginem interiorem extensus.

Mas. Oculi magis approximati. Abdomen angustatum; anus truncatus.

Fem. Oculi magis disjuncti. Abdomen paullo latius; anus obtuse rotundatus.

Body of moderate size, long, narrow, smooth, shining, nearly linear, metallic, somewhat depressed. Head semicircular. *Epistoma declining*. Eyes large, green, often with purple bands, parted. Proboscis concealed. Labium very short, flat, hollow, rounded and emarginate at the tip. Maxillæ subulate, as long as the labrum. Labium short, large, cylindrical. *Antennæ* 6-*jointed*, parallel, short, pilose, seated on the middle of the front, approximate at the base, inclined upwards, diverging towards the tips; first joint almost cylindrical; second cyathiform, bristly, somewhat compressed, thicker than the first; third, fourth, and fifth forming an almost round flagellum; sixth setiferous, seated near the tip of the fifth. Thorax oval, pubescent. *Scutellum* semicircular, *unarmed*. Wings lanceolate, pubescent, incumbent, parallel. Alulæ none. Halteres uncovered. Abdomen with 7 segments, flat. Legs slender; metatarsus almost as long as the other four joints.

These flies are remarkable for the brilliancy of their colours and the elegance of their shape; they inhabit flowers, leaves of trees, hedges, and bushes, from the spring to the autumn, and are partial to honey-dew; they are indolent, and their flight is slow, and they quickly return to the spot whence they took wing.

a. Ocelli seated on the front; the fore one remote from the two hinder. Species 1–4.

a a. Ocelli seated on the vertex; equally apart from each other. Species 5.

1. **cupreatus,** L.[2] s. n. ii. 944. 92 (1767); Dg.; Fb.; Shr.; Fln.; Mq.; Latr.; Fln.; Mq.; Zt.—*violaceus*, Spl. 540. 915 (1763).—*cupreus*, Gf.—*pilibus?* Shr. Cupreo-viridis, antennis nigris, *alis subcinereis fusco-semifasciatis, pedibus nigris, femoribus posterioribus tibiisque basi femoribusque apice fulvis; Mas.* capite fulvo-bimaculato, abdomine

æneo-viridi apice purpureo; *Fem.* capite albo-bimaculato, abdomine cyaneo-purpureo basi cupreo. Long. 4–4½; alar. 8–9 lin.

Body bright green, tinged here and there with cupreous, clothed with pale tawny hairs. Head clothed in front with black hairs. Proboscis tawny. Antennæ black. Wings pale grey; stigma dark brown; *beneath it a large irregular brown spot extends half across the wing*; veins black. Halteres tawny. Legs black; *tips of the femora, tibiæ, and hinder tarsi at the base tawny. Male.* Head with a dull tawny spot on each side between the eyes above the antennæ. Abdomen æneous-green, bright cupreous towards the tip, which is purple. *Fem.* Head with a white spot on each side. Abdomen bluish-purple, cupreous towards the base.

Generally distributed. (E. S. I.)

2. **unbeculosus,** Zin. d. s. i. 157. 3 (1843). Cupreo-viridis, antennis nigris, *alis subcinereis fusco-semifasciatis*, abdomine cupreo-purpureo lateribus cyaneo-purpureo, pedibus nigris, *genubus fulvis*. Long. 3½; alar. 5½ lin.

Bright green with a cupreous tinge here and there, clothed with pale tawny hairs. Eyes green, with purple bands. Proboscis tawny. Antennæ black. *Wings pale grey; stigma dark brown, beneath it a large irregular brown spot extends half across the wing*; veins black. Halteres yellow. Abdomen cupreous-black, bluish-purple along each side. Legs black; *knees dark tawny.*

Generally distributed. Perhaps a variety of *S. cupreovirus*. (E. I.)

3. **iridatus,** Syl. i. c. 340. 914 (1763).—*cupreovirus*, L. (in Linn. Coll.).—*infuscatus*, Hans.; Mg. zw. iii. 147. 3; Zin.—*auratus*, Mg. Cyaneo-viridis, capite albo-bimaculato, antennis nigris, *alis cinereis*, pedibus nigris, *genubus fulvis*; *Mas.* abdomine cupreo- basi æneo-viridi; *Fem.* abdomine purpureo basi æneo. Long. 4–5; alar. 8–10 lin.

Body bright bluish-green, clothed with pale tawny hairs. Head with a white spot on each side above the antennæ, clothed in front with black hairs. Eyes green, with a purple band. Proboscis tawny. Antennæ black. *Wings grey*; veins black. Halteres tawny. Legs black; *knees* tawny. *Male.* Abdomen æneous, green or æneous-green at the base, cupreous towards the tip. *Fem.* Abdomen purple, æneous at the base.

Generally distributed. (E. S. I.)

4. **flavipes,** Fln. d. s. suppl. 9. 2–3 (1826); Zin. Æneo-viridis, capite albo-bimaculato, antennis nigris, *alis fusco-cinereis*; *Mas.* abdominis apice cupreo, pedibus nigris, *tarsis posterioribus tibiisque basi fulvis*; *Fem.* capite nigro, verticis cuneis purpureis, abdomine cupreo ad apicem cyaneo-purpureo, *pedibus fulvis, tibiis anticis fusco-cinereis.* Long. 3–4; alar. 6–8 lin.

Body golden-green. Head clothed in front with black hairs; a

white spot on each side above the antennæ. Eyes without bands. Proboscis tawny. Antennæ black. Wings brownish-grey; stigma darker; veins black. Halteres tawny. *Male.* Body clothed with pale tawny hairs. Abdomen cupreous towards the tip. Legs black; *tibiæ and hinder tarsi tawny* towards the base. *Fem.* Body clothed with whitish hairs. Head black; a purple ridge on the crown. Abdomen cupreous, purple towards the tip, which is tinged with blue. *Legs tawny; a black band on each femur; tips of the tarsi black.*

Generally distributed. (E. S. I.)

5. **bipunctata,** Spl. i. c. 341. 916 (1763).—*Reaumuri,* Fb.; Mg.; Mq.; Ct.! b. e. 305; Ztt. Antennis nigris, alis cinereo-fulvis, pedibus fulvis; *Mas.* cyaneo-viridis, thorace cupreo-quadrivittato, abdomine æneo; *Fœm.* viridis vel cupreo-viridis, abdomine purpureo-cyaneo basi rufo-fulvo. Long. 4–6; alar. 9–13 lin.

Head with a shining white spot on each side above the antennæ. Eyes bronzed. Proboscis tawny. Antennæ black. Wings pale greyish tawny; stigma pale brown; veins black, tawny at the base. Halteres tawny. Legs tawny; tips of the tarsi brown. *Male.* Body clothed with tawny hairs. Head bright bluish-green, clothed in front with black hairs. Thorax bright green, with 4 cupreous stripes; hind part bluish-green. Abdomen æneous. *Fem.* Head clothed in front with tawny hairs. Thorax bright green or cupreous-green. Abdomen blue, with a purple stripe; first and second segments reddish-tawny, with a purple stripe.

Local. (E. S. I.)

Family II. XYLOPHAGIDÆ.

Xylophagii p., Mg. zw. ii. 1 (1820); Ll.; Fln.; Ztt. *Stratiomydæ* p., Lm. *Xylophagidæ* p. et *Xylophaga* p., Bms. *Xylophagites* p., Nwm. *Stratiominæ* p., Rdn. *Xylophagei* p., Ags.

Corpus medium, angustum. Ocelli 3. Proboscis retracta, setis quatuor. *Antennæ* 10-*articulatæ,* porrectæ, basi approximatæ, apice acutæ; articuli tertio ad decimum subæquales, flagellum cylindricum fingentes stylo terminali nullo. Scutellum muticum. Alæ incumbentes. Abdomen segmentis 7. Pedes simplices, nudi.

Mas. Oculi cohærentes, aut approximati.

Fœm. Oculi remoti. Segmenta analia vaginata.

Body of middle size or rather small, narrow, cylindrical. Ocelli 3. Proboscis withdrawn. Antennæ 10-jointed, inserted in the middle of the face, porrect, approximate at the base, with acute tips; joints from the third to the tenth compact, nearly equal, forming a cylindrical flagellum without a terminal style. Scutellum unarmed. Wings

incumbent, parallel. Alulæ small. Halteres uncovered. Abdomen with 7 segments. Legs simple, bare.

Male. Eyes almost contiguous.

Fem. Eyes remote. Anal segments tubular.

The species are few, and of rare occurrence. The larvæ live in decayed wood. The flies appear in the summer, and rest on the trunks of trees, and are sluggish except in fine calm weather.

First joint of the Antennæ	longer than the second: Palpi clavate	1. XYLOPHAGUS.
	as long as the second: Palpi cylindrical . . .	2. SUBULA.

Genus I. **XYLOPHAGUS.**

XYLOPHAGUS, Mq. i. 229 (1834). *Asilus* p., Slb. *Empis* p., Pz. *Rhagio* p., Pz. *Xylophagus* p., Mg.; Fb.; Ll.; Ztt.

Palpi biarticulati, *clavati.* Antennæ subfiliformes; *articulus primus secundo longior.* Alarum venæ 4 longitudinales, præter areolam analem acutam in marginem interiorem alæ descendentes. Tibiæ apice spinosæ.

Body narrow, cylindrical, thinly clothed with short hairs. Colour black, often partly red or yellow. Head depressed. Eyes prominent. Labrum short, thick, with an obtuse tip, shorter than the labium. Palpi biarticulate, clavate, longer than the labium, curved upward; first joint very small; second *large, oval, pubescent.* Labium short, cylindrical. Antennæ subfiliform, 10-jointed, porrect, approximate, diverging; first joint longer than the second, cylindrical; second cyathiform, short; third and following joints forming a long almost cylindrical flagellum. Scutellum semicircular. Alulæ entire, very small. Halteres uncovered. Abdomen rather long. Tibiæ armed with spines at the tips.

Male. Abdomen cylindrical.

Fem. Abdomen obconical, with a tubular-jointed oviduct.

1. **ater,** Fb. s. a. 64. 1 (1805); Mg.; Mq.; Ztt.—*subulata,* Pz.! fn. L. iv. 23. Niger, thorace cinereo-trivittato, alis fusco-fasciatis, pedibus fulvis, femoribus posticis apice tibiis tarsisque fuscis. Long. lin. 6; alar. 10 lin.

Black, shining. First joint of the palpi yellow. Antennæ a little shorter than the thorax. Thorax with three grey stripes. An indistinct brown band across each wing. Halteres yellow. Legs tawny; hind tibiæ, hind tarsi, and tips of the hind femora brown.

Very rare. In Mr. E. Brown's collection. (E.)

Genus II. **SUBULA.**

SUBULA, Mgrle.; Mg. zw. 12. 15 (1820); Mq. *Nemotelus* p., Dg. *Xylophagus* p., Mg.; Fb.; Ll.; Ztt.

Corpus angustum. Color niger; pictura sæpe rufa vel flava. Palpi biarticulati; *articulus secundus longus, cylindricus.* Antennæ subfiliformes; *articuli primus et secundus æquales*; flagellum longum, subcylindricum. Alæ areola analis clausa, retracta.

Body narrow, cylindrical, thinly clothed with short hairs. Colour black, often partly red or yellow. Labrum short, thick, with an obtuse tip, shorter than the labium. Palpi biarticulate, longer than the labium, curved upward; first joint slender; *second long, cylindrical,* as if annulated. Labium short, cylindrical. Antennæ porrect, approximate at the base, diverging; *first and second joints of equal length*; second cyathiform; third and following forming an almost cylindrical flagellum. Scutellum semicircular. Wings finely pubescent. Alulæ entire, very small. Halteres uncovered. Abdomen rather long. Tibiæ armed with spurs.

Male. Eyes approximate, but not contiguous. Abdomen cylindrical.

Fem. Eyes remote. Abdomen obconical, with a tubular-jointed oviduct.

1. **maculata,** Fb. s. a. 65. 3 (1805); Mg.; Mq.; Ztt.; Steph.! b. e. pl. 46. fig. 3. Nigra, *antennis ferrugineis* basi piceis, *thoracis lateribus flavo-vittatis et quadrimaculatis,* scutello flavo, alis sublimpidis, abdominis basi maculis duabus et segmentorum marginibus posticis flavis, *pedibus flavis nigro-cinctis.* Long. 4½; alar. 10 lin.

Cylindrical, black, shining. Head clothed above with tawny down, and in front with hoary down; a scapula above the antennæ. Eyes large, prominent. Mouth luteous. *Antennæ ferruginous*; first joint pitchy. *Thorax with two yellow spots on each side*; the second pair forming an interrupted band; a yellow scapula on each shoulder, forming a ridge, which widens towards the base of the wing; a yellow spot beneath the latter on each side. *Scutellum yellow.* Wings almost colourless. Halteres luteous. Abdomen with the hind borders of the segments and a large spot on each side of the base yellow. *Legs yellow*; tips of the femora, of the tibiæ, and of the tarsi, and the whole of the fore tarsi, black; metatarsus very long. This species resembles the *Ctenophoræ* in colour, and the *Xylophagidæ* seem to connect the *Brachycera* with the *Nemocera.*

Very rare; inhabits the New Forest, Hampshire. In Mr. Stephens's collection. (E.)

2. **varia,** Mgrle.; Mg. zw. ii. 14. 5 (1820); Mq. Nigra, *thoracis lateribus scutelloque fulvis,* alis subcinereis, ventris segmentorum marginibus posticis *pedibusque fulvis.* Long. 3–4; alar. 6–8 lin.

Black. Body slender, thinly clothed with tawny hairs. Antennæ slender, much more than half the length of the thorax. Thorax with

a tawny scapula along each side, widening from the shoulder to the base of the wing. *Scutellum tawny.* Wings pale grey. Halteres luteous. Hind borders of the abdominal segments tawny beneath. *Legs tawny.*

Very rare. In the British Museum. The larva feeds on the wood of the oak. (E.)

Family III. TABANIDÆ.

Tabanidæ, Lch.; Ct.; Wtw. *Tabanii,* Ll.; Fln.; Mg.; Mq.; Ztt.; Ags. *Tabanii* p., Ll. h. n.; Lm. *Anthracina* p., Rfnq. *Sclerostoma* p., Dmr. *Tabanica,* Brm. *Tabinites,* Nwm. *Tabaninæ,* Rdn.

Os maris setis 4, feminæ setis 6, armatum. Antennæ porrectæ, approximatæ; tertius et sequentes flagellum compactum fingentes. Alæ incumbentes, deflexæ.

Structure robust, much developed. Body rather broad, of large or middle size. Head semicircular, generally somewhat depressed. Eyes large, generally golden-green, of various shades, often with purple or brown bands. Mouth projecting. Palpi porrect, inserted at the base of the maxillæ. Antennæ porrect, inserted in front of the face, approximate at the base, with 6, 8, or 10 joints; third and following joints forming a compact flagellum, whose tip is not setiform. Wings incumbent, deflexed. Alulæ large, half-covering the halteres. Abdomen with seven segments. Legs stout; hind legs longer than the anterior; tips of middle tibiæ armed with two spines.

Male. Eyes contiguous. Mouth without mandibles. Palpi horizontal, with obtuse tips. Abdomen obconical, much narrower towards the tip.

Fem. Eyes remote. Mouth armed with mandibles. Palpi deflexed, acute. Abdomen broad, depressed, hardly narrower towards the tip.

These flies appear in summer, chiefly abound in woods, and are most frequent in the hottest weather. Their flight is powerful; the males frequent flowers; the females with their sharp mouths pierce the skins and feed on the blood of quadrupeds. The larva is apod, long, cylindrical, grey, with twelve segments; it lives in the earth, and feeds on decaying vegetable and animal matter.

Ocelli	none: Antennæ	7-jointed	1. Tabanus.
		6-jointed	2. Hæmatopota.
	three		3. Chrysops.

Genus I. **TABANUS.**

TABANUS, Fln. d. s. (1817); Mg.; Mq.; Ztt.; Ct.; Zll. *Tabanus* p., L.; Fb.; Ll.; Wd.

Corpus magnum, oblongum, pubescens. Color niger, pubescentiæ cinerascens aut subflavescens, raro obscurus. *Ocelli nulli.* Palpi maris capitati, fœminæ subulati. *Antennæ 7-articulatæ*, subretusæ: articulus primus cylindricus, subclavatus, apice truncatus; secundus cyathiformis; tertius compressus, supra excisus. *Alæ divaricatæ*; areola analis retracta.

Body of large size, generally black-brown or tawny, pubescent. Head semicircular. *No ocelli.* Mouth porrect, as long as the head. Labrum small, long, slender, lanceolate, linear on each side. Lingua small, thin, channelled, pointed. Maxillæ long, slender, acute. Palpi hairy, biarticulate, curved inward; first joint short, somewhat clavate. Labium large, thick, cylindrical, hairy. *Antennæ 7-jointed*, not longer than the head: first and second joints bristly; second shorter than the first; third notched or forked above; flagellum long, compressed, curved upward; fourth joint longer than the following, which are small and cylindrical; seventh pointed. Thorax large, subquadrate, slightly rounded on each side, somewhat convex, and generally striped above, having before the base of each wing a slight swelling or indentation, from whence a deep transverse line extends to the middle of the disc, and then ceases; a crooked fold on each side before the scutum, and in the middle a like one, which encloses a small part of the thorax. *Wings* lanceolate, finely pubescent, *diverging*; anal areolet closed far from the border. Tarsi short.

Male. Upper region of the eyes composed of large facets. Second joint of the palpi short, capitate.

Fem. Mandibles horny, flat, knife-shaped, pointed, seated on the under base of the labium, by which they are covered. Second joint of the palpi long, attenuated.

These flies frequent woods during the summer; they are comparatively scarce in England, but very abundant in warm countries. Their flight is accompanied by a humming, which varies in different species. Those with hairy eyes appear to be chiefly northern. The fork of the vein between the cubital and submarginal areolets is a constant character of the two last and somewhat aberrant species, and it occasionally, but rarely, occurs as an irregularity in the structure of some of the preceding kinds. The genus may be divided as follows:—

a. Vein between the cubital areolet and the submarginal areolet simple.
  b. Eyes bare.
    c. Abdomen with one stripe. Species 1.

c c. Abdomen with three stripes. Species 2–7.
b b. Eyes hairy. (*Therioplectes*, Zeller.)
c. Body rather broad.
d. Abdomen tawny on each side. Species 8–10.
d d. Abdomen black, with grey spots. Species 11, 12.
c c. Body narrow. Species 13.
a a. Vein between the cubital areolet and the submarginal areolet forked. Eyes hairy. Species 14, 15.

1. **Bovinus,** L. s. n. ii. 1000. 4 (1763); Fb.; Pz.!; Mg.; Mq.; Ztt. Nigro-fuscus, capite flavo-albo, antennis nigris basi fulvis, thorace cinereo quinquevittato, alis subcinereis basi et ad costam fulvis, abdomine maculis trigonis cinereis univittato, segmentorum marginibus posticis fulvis, pedibus fuscis, tibiis flavis. Long. 10–11; alar. 20–22 lin.

Dark brown. Head yellowish-white, clothed in front with pale yellow hairs. Eyes bronzed, not striped. Antennæ black, tawny at the base; notch of the third joint large. Thorax with five grey stripes. Wings pale grey, tawny at the base, and thence along three-fourths of the fore border. Halteres brown, with pale yellow tips. Abdomen with a row of whitish triangular spots; hind borders of the segments tawny on each side. Legs brown; tibiæ yellow.

This, the largest British *Tabanus,* is not common; when on the wing it may be distinguished by its loud hum, by its rapid flight, and by the large circles in which it wheels round its prey. (E. S. I.)

2. **autumnalis,** L. s. n. ii. 1000. 5 (1763); Mg.; Dc.; Mq.; Ztt. Nigro-fuscus, capite flavo-albo, antennis nigris, thorace cinereo-quinquevittato, alis cinereis *basi et ad costam subfulvis, abdomine maculis canis quinquevittato,* pedibus nigris, tibiis flavis apice nigris. Long. 7½–9; alar. 14–18 lin.

Brownish-black. Head yellowish-white, clothed in front with pale yellow hairs. Eyes bronzed, not striped. Antennæ black. Thorax with five grey stripes. Wings grey, *with a slight tawny tinge at the base and along three-fourths of the fore border.* Halteres brown, with yellow knobs. Abdomen *rather long, with five rows of hoary spots.* Tibiæ yellow, with black tips. *Male.* Abdomen ferruginous on each side.

Generally distributed. (E. S.)

3. **anthracinus,** Hfg.; Mg. zw. ii. 36. 7 (1820). Nigro-fuscus, capite flavo-albo, *antennis* nigris, *articulo tertio basi ferrugineo,* thorace cinereo-quinquevittato, alis subcinereis, *abdomine maculis trigonis canis trivittato,* pedibus nigris, tibiis fulvis apice nigris. Long. 7; alar. 14 lin.

Brownish-black. Head yellowish-white, clothed in front with pale yellow hairs. Eyes purplish-green. *Antennæ* black, *dark ferruginous*

towards the base of the third joint. Thorax with five grey stripes. Wings pale grey. Halteres tawny, their knobs brown, with yellowish-white tips. Abdomen *rather short and broad, with three rows of triangular hoary spots.* Tibiæ tawny, with black tips. *Male.* Abdomen tawny on each side towards the base.

Rare. In the collection of the Entomological Club. (E.)

4. **glaucopis,** Mg. zw. ii. 48. 24. pl. 13. f. 18 (1820); Mq.; Ztt. Nigro-cinereus, *antennis rufis apice nigris,* thorace cano-quinquevittato, alis vix cinereis, abdomine maculis trigonis canis trivittato, tibiis fulvis apice nigris. Long. 7; alar. 12 lin.

Dark grey. Head clothed in front with pale yellow hairs. Eyes bronzed; facets of the fore part very small. *Antennæ* black; *first joint testaceous; second dark red; third slender, dark* red at the base, very slightly notched. Thorax with five hoary stripes; tip and underside hoary. Wings very slightly tinged with grey. Alulæ greyish, with tawny borders. Halteres brown, with whitish tips. Abdomen with three rows of hoary somewhat triangular spots. Tibiæ tawny, with black tips. *Male.* Spots on each side of the abdomen mostly tawny towards the base.

Very rare. In the collection of the Entomological Club. (E.)

5. **bromius,** L. s. n. ii. 1001. 12 (1763); Mg.; Mq.; Ztt.—*maculatus,* Dg. Niger, capite flavo-albo, *antennis fulvis,* thorace cinereo-quinquevittato, alis cinereis, *abdomine nigro-fusco maculis* trigonis fulvis trivittato, tibiis fulvis. Long. 5–7; alar. 10–12 lin.

Black. Head yellowish-white, clothed in front with pale yellow hairs. Eyes bronzed, purple in front. *Antennæ dark tawny*; third joint paler. Thorax with five grey stripes. Wings grey. Halteres tawny, with brown knobs. *Abdomen dark brown, with three rows of dull, pale, tawny, triangular spots.* Tibiæ tawny.

Generally distributed. (E. S.)

6. **atricornis,** Mg. zw. vii. 59. 47 (1838); Ztt. Nigro-cinereus, *antennis nigris, thorace subvittato,* alis subcinereis, *abdomine* maculis trigonis canis trivittato, *segmenti secundi lateribus fulvis,* tarsis posterioribus tibiisque ferrugineis apice nigris. Long. 6–7; alar. 12 lin.

Greyish-black. Head clothed in front with whitish hairs. *Antennæ black. Thorax indistinctly striped.* Wings pale grey. Alulæ grey, with tawny borders. Halteres pitchy, with ferruginous tips. *Abdomen* with three stripes of nearly triangular hoary spots; middle spots small; *a tawny spot on each side of the second segment.* Tibiæ and posterior tarsi ferruginous, with black tips. *Male.* Eyes reddish-bronze, black, and composed of very small facets in front. *Female.* Eyes blackish-bronze.

Rare. In the collection of the Entomological Club. (E.)

7. **glaucus,** Mgrle.; Mg. zw. ii. 51. 28 (1820). Nigro-cinereus, *antennis rufis apice nigris,* thorace cano-quinquevittato, alis subcinereis,

abdomine cæruleo-fusco maculis trigonis canis trivittato, tibiis fulvis apice nigris. Long. 4–5 ; alar. 8–10 lin.

Greyish-black, hoary beneath. Head covered above with fawn-coloured down, whitish, and clothed with white hairs in front and beneath. Eyes bronzed, blackish-bronze in front. *Antennæ rather deep red, with black tips.* Thorax with five indistinct hoary stripes; underside hoary. Wings pale grey ; stigmata dark brown. Alulæ grey, with tawny borders. Halteres brown, with pale tips. *Abdomen dark brown, slightly tinged with blue,* with three stripes of nearly triangular hoary spots, tawny on each side and along the hind borders of the segments beneath. Tibiæ tawny, with black tips.

Rare. In the collection of the Entomological Club.

8. **tropicus,** L. s. n. ii. 1001 (1763) ; Dg. ; Fb. ; Shr. ; Gm. ; Ll. ; Pz. ! fn. xiii. 22 ; Fln. ; Mg. ; Mq. ; Ztt. Niger, capite flavo-albo, *antennis ferrugineis basi et apice obscurioribus,* thorace cinereo-subtrivittato, *alis cinereis basi et ad costam fulvis,* abdomine fulvo *maculis trigonis flavis univittato, tibiis fulvis.* Long. 7–7½ ; alar. 14–15 lin.

Black. Head yellowish-white, clothed in front with pale yellow hairs. Eyes æneous-green, with three purple bands. *Antennæ ferruginous ; first, fourth, and following joints darker.* Thorax with three very indistinct grey stripes. *Wings grey, tawny at the base, and thence along three-fourths of the fore border.* Halteres brown, tawny at the base. Abdomen tawny, *with a row of triangular yellow spots,* which are sometimes indistinct. *Tibiæ tawny.*

Generally distributed, but not common. (E. S. I.)

9. **luridus,** Fln. d. s. tab. 5. 4 (1817) ; Mg. ; Mq. ; Ztt. Niger, capite albido, *antennis ferrugineis et apice nigris,* thorace cinereo-subtrivittato, *alis cinereis basi et ad costam subfuscis, abdomine maculis canis univittato, lateribus anterioribus fulvis, tibiis fulvis apice obscurioribus.* Long. 6–7 ; alar. 12–14 lin.

Black. Head whitish, clothed in front with pale yellow hairs. Eyes æneous-green, with three purple bands. *Antennæ* black ; *second and third joints ferruginous.* Thorax with three indistinct grey stripes. *Wings grey, brownish at the base, and thence along three-fourths of the fore border.* Halteres brown, tawny towards the base. *Abdomen dark tawny on each side, for about half the length from the base, and with a row of triangular hoary spots on the disc. Tibiæ tawny, darker towards the tips.*

Generally distributed. (E. S.)

10. **signatus,** Wdm.; Mg. zw. 34. 4 (1820). Niger, capite cano, *antennarum articulo tertio fulvo,* thorace vix vittato, alis cinereis basi et ad costam fuscis, abdomine maculis trigonis canis univittato fasciisque abbreviatis canis bivittato, *tibiis fulvis apice nigris.* Long. 7 ; alar. 14 lin.

Black. Head hoary, clothed in front with pale yellow hairs. Eyes æneous-green, with 3 purple bands. *Third joint of the antennæ tawny.* Thorax hardly striped. Wings grey, tinged with brown at the base and thence along two-thirds of the fore border. Halteres brown, tawny at the tips and towards the base. Hind borders of the abdominal segments with a triangular hoary spot in the middle, and with a short hoary band on each side. *Tibiæ dark tawny, with black tips.*

Rare. (E.)

11. **austriacus,** Fb. s. a. 96. 17 (1805).—*micans,* Mg.; Mq. Niger, capite cano, thorace vix vittato, *alis* cinereis basi et ad costam et *ad venas disci nonnullas fuscis; Mas.* abdomine maculis canis univittato; *Fœm.* abdomine maculis canis trivittato, lateribus anterioribus cano-maculatis. Long. 6–7; alar. 14–16 lin.

Black. Head hoary, clothed in front with pale yellow hairs. Eyes æneous-green, adorned with 3 purple bands. Thorax hardly striped. Wings grey, brown at the base and thence along three-fourths of the fore border and *along some of the veins in the disc.* Halteres black. *Male.* Abdomen with one row of hoary spots. Fore tarsi fringed with long hairs. *Fem.* Abdomen with 3 rows of hoary spots, and with a larger hoary spot on each side near the base.

Rare. (E.)

12. **cordiger,** Wdn.; Mg. zw. ii. 47. 23 (1820). Nigro-fuscus, capite flavo, *antennis ferrugineis apice nigris,* thorace cinereo-trivittato *ad alas fulvo,* alis subcinereis basi et ad costam fulvis, abdomine maculis trigonis cinereis trivittato, *segmentis primo ad tertium fulvo-bivittatis,* pedibus nigris, tibiis anticis basi fulvis, tibiis posterioribus et tarsis fulvis. Long. 6; alar. 12 lin.

Dark brown, narrow. Head yellow, clothed in front with yellow hairs. Eyes æneous-green, with 3 purple bands. Antennæ ferruginous, black towards the tips. Thorax with 3 grey stripes, *tawny above the base of each wing.* Wings pale grey, tawny at the base and thence along two-thirds of the fore border. Halteres brown, yellow at the tips and towards the base. Abdomen with a row of cinereous triangular spots along the disc and with a *tawny stripe along each side of the first, second, and third segments.* Legs black; fore tibiæ towards the base, posterior tibiæ and tarsi, tawny.

Rare. In the collection of the Entomological Club. (E.)

13. **rusticus,** L. s. n. ii. 1000. 11 (1763); Fb.; Fln.; Mg.; Mq.; Ztt. Cinereus, capite cano, *antennis fulvis basi flavis apice ferrugineis,* alis sublimpidis, *pedibus nigris, tibiis fulvis apice nigris; Mas.* abdomine basi fulvo-bivittato; *Fœm.* abdomine maculis cinereis trivittato. Long. 6; alar. 12 lin.

Grey. Head hoary, clothed in front with pale yellow hairs. Eyes yellowish-green. *Antennæ tawny, yellow at the base, ferruginous towards the tips.* Thorax not striped. Wings almost colourless.

Halteres pale yellow, with white knobs. *Legs black; tibiæ pale tawny, with black tips. Male.* Abdomen with a short tawny stripe on each side near the base. *Fem.* Abdomen with 3 rows of large indistinct cinereous spots.

Not common. (E. S.)

14. **alpinus,** Shr. f. b. iii. 2534 (1798); Ct.! b. e. 78.—*rusticus*, Shr. i. a.; Pz.; Fln.—*fulvus*, Mg.; Mq.; Ztt. *Fuscus*, capite cano, *antennis luteis basi flavis*, alis limpidis basi et ad costam subfulvis, abdominis lateribus basi fulvis, pedibus fulvis, tarsis anticis nigris. Long. 6–7; alar. 12–14 lin.

Brown, thickly clothed with short tawny hairs. Head hoary, clothed in front with yellow hairs. Eyes pale green. *Antennæ luteous; first and second joints yellow.* Thorax not striped. Wings colourless, with a tawny tinge at the base and thence along two-thirds of the fore border. Halteres yellow, with whitish tips. Abdomen tawny on each side near the base. *Legs tawny; fore tarsi black.*

Not common. (E. S.)

Genus II. **HÆMATOPOTA.**

HÆMATOPOTA, Mg. kl. i. 162 (1804); Fb.; Ll.; Fln.; Mg.; Ztt. *Tabanus*, L.; Fb.; Dg.; Pz.; Shr.; Gm.; Gfr.

Corpus mediocre, lineare, pubescens. Color obscurus. *Ocelli nulli.* Palporum articulus secundus conicus. *Antennæ 6-articulatæ*, porrectæ, lanceolatæ, subretusæ; articulus primus cylindricus, sat longus; secundus cyathiformis, perbrevis; tertius et sequentes compacti, flagellum subulatum fingentes. *Alæ parallelæ, deflexæ;* areola analis angulo acuto usque in marginem summum interiorem descendens.

Body narrow, linear, generally black or grey. Head contracted, semicircular, somewhat depressed. Eyes depressed. *Ocelli none.* Mouth projecting. Labrum small, stiff, pointed, as long as the labium. Lingua lanceolate, pointed, as long as the labium. Maxillæ curved, acute, as long as the lingua. Labium thick, tumid beneath, channelled above. *Antennæ 6-jointed*, inserted in front of the face, longer than the head; first and second joints bristly; first somewhat long, elliptical or cylindrical; second short, cyathiform; third and three following joints compressed, almost bare; third attenuated, rather stout, nearly as long as the first; fourth and fifth small, quadrate; sixth a little longer, rounded at the tip. Thorax oval, narrower than the head; scutellum semicircular. *Wings* lanceolate, rather narrow, finely pubescent, *parallel, deflexed*, adorned with ringlets; anal areolet extending to the border. Alulæ small. Halteres uncovered. Abdomen rather

long, linear, depressed. Legs of equal length; tibiæ compressed, not thicker than the femora.

Male. Mouth horizontal. Labrum lanceolate, hollow. Palpi very hairy; first joint clavate; second nearly oval, much broader than the first. First joint of the antennæ very much incrassated.

Fem. Head with two black spots and a black dot, forming a triangle on the crown. Mouth perpendicular. Labrum rather broad and stout. Mandibles lanceolate, as long as the labrum, seated on the under base of the labium. Palpi pubescent; first joint short; second long, conical, slightly curved, not broader than the first. First joint of the antennæ oval, scarcely stouter than the third.

These flies are much more abundant than the *Tabani*; their flight is silent.

1. **pluvialis,** L. s. n. ii. 1001. 16 (1763); Dg.; Fb.; Shr.; Gm.; Gfr.; Ll.; Pz.; Mg.; Fln.; Mq.; Ztt.—*hyetomantis*, Shr.—*equorum*, Fb.; Mg.—*tenuicornis*, Mq.—*italica*, Mg.; Ct.! b. e.—*longicornis*, Mq. —*grandis*, Mgrle.; Mq. Capite cano, antennis nigris, articulo tertio basi ferrugineo, alis cinereis confertim albido-subocellatis, tibiis posterioribus fulvis nigro-bicinctis, tibiis anticis et tarsis posterioribus basi fulvis. *Mas.* Niger, abdominis lateribus nonnunquam fulvis. *Fœm.* Fuscus, thorace cinereo-trivittato, abdomine maculis cinereis trivittato, segmentorum marginibus posticis canis. Long. $3\frac{1}{2}$–5; alar. 7–10 lin.

Head hoary. Eyes green, with 3 or 4 crimson bands. Antennæ black; third joint more or less ferruginous towards the base, sometimes quite black. Wings dark grey, with numerous whitish curved lines and imperfect circlets. Halteres tawny. Legs black; fore tibiæ and tarsi tawny at the base; posterior tibiæ tawny, with 2 black bands. *Male.* Black. Head clothed in front with pale yellow hairs. Sides of the abdomen sometimes tawny. *Fem.* Brown. Head clothed in front with white hairs, black and shining about the base of the antennæ, above which there are 2 dark brown spots. Thorax with 3 grey stripes. Abdomen with 3 rows of grey spots; hind borders of the segments hoary.

Generally distributed, and excessively abundant in the summer; the warmth of a hothouse will develope the fly in the beginning of March. (E. S. I.)

Genus III. **CHRYSOPS.**

Chrysops, Mg. kl. (1804); Fb. s. a.; Fln.; Mq.; Ztt. *Tabanus* p., L.; Fb.; Pz.

Corpus mediocre, pubescens, oblongum, sat latum. Color obscurus;

pictura abdominis sæpe rufa, alarumque albo-maculata. *Ocelli* 3. Antennæ 7-articulatæ, porrectæ, cylindricæ, subretusæ; articuli primus et secundus hirti, æquales; tertius et sequentes flagellum subulatum fingentes. Alæ divaricatæ; areola analis marginem attingens, subaperta. Abdomen depressum.

Body of middle size, pubescent, rather broad. Head semicircular. Eyes resplendent gold-green, with purple-brown spots and lines. *Ocelli* 3. Mouth projecting, as long as the head. Labrum stiff, pointed, as long as the labium. Lingua slender, stiff, pointed. Maxillæ slender, acute. Palpi hairy, biarticulate; first joint short, cylindrical; second long, conical. Labium slender, cylindrical. Antennæ 7-jointed, inserted in the middle of the front, porrect, cylindrical, a little curved upward, tapering towards the tips, rather longer than the head; first and second joints cylindrical, hairy, of equal length; third and following forming a subulate flagellum; third of moderate length; fourth and following joints short. Thorax rather flat, hairy on each side. Wings almost lanceolate, divaricate, finely pubescent, more or less coloured; anal areolet extending to the border, almost open. Abdomen flat.

Male. Palpi horizontal.

Fem. Head with 2 black scapulæ, one above the antennæ, the other on the crown. Mandibles thin, lanceolate, as long as the labrum. Palpi perpendicular. Thorax striped.

These flies are common, but do not swarm like the *Hematopotæ*; their flight is silent.

1. **cæcutiens,** L. s. n. ii. 1001. 17 (1763); Dg.; Fb.; Gm.; Fln.; Mg.! ii. 67. 2. pl. 14. f. 6; Mq.; Ztt.—*lugubris,* L.; Fb.; Mg.—*viduatus,* Fb. Thoracis lateribus fulvo-hirtis. *Mas.* Niger, alis nigro-fuscis cinereo-bimaculatis, *abdomine basi fulvo-bimaculato. Fœm.* Nigro-fuscus, thorace cinereo-bivittato, alis fuscis limpido-bimaculatis, *abdomine basi fulvo maculisque trigonis fulvis vittato.* Long. $3\frac{1}{2}$–$4\frac{1}{2}$; alar. 7–9 lin.

Eyes golden-green; 5 spots and the hind border purple. Halteres dark brown. *Male.* Black. Thorax clothed with bright tawny hairs on each side at the base of the wings. Wings dark brown; hind border at the base, and a large angle on the hind border near the tip, pale grey; a small whitish spot in the disc. *Abdomen tawny on each side towards the base. Fem.* Dark brown. Thorax with 2 cinereous stripes, clothed with bright tawny hairs, which are thickest on each side. Wings brown, with 2 large colourless spots, one extending almost across the wing from the hind border near the base, the other forming an angle on the hind border near the tip. *Abdomen with a very broad and often interrupted tawny band at the base, and with a row of tawny triangular spots along the back, the first largest and most distinct.*

Generally distributed. (E. S.)

2. **relictus,** Hfg.; Mg. zw. ii. 69. (1820.) 3; Mq.; Ztt.—*viduatus,* Mg.; Fb.—*Tabanus cæcutiens,* Pz.! Thorace fulvo-hirto, *abdomine maculis trigonis cinereis univittato maculisque fulvis trivittato,* tibiis fulvis. *Mas.* Niger, alis nigro-fuscis cinereo-bimaculatis. *Fœm.* Nigro-fuscus, thorace cinereo-quadrivittato, alis fuscis albido-bimaculatis, *abdominis lateribus basi flavis segmentorum marginibus posticis cinereis.* Long. $3\frac{1}{2}$–$4\frac{1}{2}$; alar. 7–9 lin.

Eyes golden-green. Thorax clothed with tawny hairs. Halteres brown. *Abdomen with a row of cinereous triangular spots along the back, and with a tawny spot on each side of every segment from the first to the fourth.* Tibiæ dark tawny. *Male.* Black. Eyes with 4 cupreous spots, which join together, and form a band in the middle. Wings dark brown, with 2 very large irregular pale grey spots on the hind border, one near the base, the other near the tips. *Fem.* Dark brown. Head covered with yellow down, with 8 black shining scapulæ; 2 on the crown, quadrate; 6 in front. Eyes with purple or brown marks. Wings brown, with 2 very large irregular whitish spots on the hind border, one near the base, the other near the tip. *Abdomen with a very large angular yellow spot occupying the sides of the first and second segments; hind borders of the segments cinereous.*

Not very common. (E. S. I.)

Family IV. ACROCERIDÆ.

Acroceridæ, Lch. comp. (1809); Ct.; Wtw. *Bombyliarii* p., Lm. *Aplocera* p., Dmr. *Inflatæ,* Ll. *Inflata,* Mg. *Stratiomydæ* p., Fln. *Vesiculosa,* Mq. *Asiphoniæ* p., Rfn. *Cyrtites,* Nwm. *Ogcodinæ,* Rdn. *Inflata* (*Henopii*), Ags. *Acrocerinæ,* Ztt.

Corpus latum, globosum. Caput parvum, rotundum. Oculi magni. Ocelli 3. Antennæ triarticulatæ, brevissimæ, stylatæ. Alæ divaricatæ. Abdomen magnum, segmentis 5. Pedes simplices.

Body broad, globose. Head small, almost wholly occupied by the eyes. Ocelli 3. Antennæ 3-jointed, very small, porrect, approximate at the base. Wings diverging, deflexed. Abdomen very thick, transparent, with 5 segments. Legs slender; onychia 3.

Third longitudinal vein	forked	1. Acrocera.
	simple	2. Henops.

Genus I. **ACROCERA.**

ACROCERA, Mg.; Illig. mag. (1806); Ll.; Mq.; Ztt. *Syrphus* p., Pz. *Henops* p., Fln.

Corpus minoris magnitudinis, subglobosum, gibbum, breviter pubescens. Color nigricans. Oculi nudi, obscure fusci, unicolores. Antennæ prope verticem insertæ. Alæ vena tertia longitudinali furcata.

Body small, gibbous, almost globose, downy. Head small, oval, contracted in front. Eyes bare, almost contiguous. Ocelli 3, on the crown. Proboscis concealed. Antennæ small, upright, 3-jointed, *seated near the crown*; first joint patelliform; second cyathiform; third long, setiform. Thorax almost round, gibbous, much broader than the head. Wings lanceolate, diverging, oblique, bare; *third longitudinal vein forked.* Alulæ large, convex, hiding the little halteres. Abdomen round, broader and thicker than the thorax, with 5 segments. Legs delicate; metatarsus as long as the other four joints.

The *Acroceræ* are very sluggish, and are often seated in groups on the withered trunks and branches of oak and other trees, about which they fly when the sun shines in warm weather; they also frequent thickets and herbage beneath trees.

1. **globulus,** Pz.! fn. xxxvi. 20; Ll.; Fln.; Mg.; Mq.; Ztt. Nigra, thoracis lateribus flavo-maculatis et fasciatis, alis limpidis, *abdomine fulvo apice flavo-fasciato*, pedibus fulvis. Long. $1\frac{3}{4}$; alar. 5 lin.

Black. Head clothed with hoary hairs. Thorax clothed with very short yellow hairs; a pale yellow spot on each side of the fore border, and a short oblique pale yellow band at the base of each wing. Wings and alulæ colourless; veins and halteres yellow. Abdomen tawny; an irregular pale yellow band near the tip. Legs tawny; ungues black.

Appears during the summer, and frequents the withered branches of the alder, the ash, the aspen, and other trees. (E.)

2. **albipes,** Mg. zw. iii. 96. 4 (1822).—*globulus* var., Fln.; Ztt. Nigra, antennis fulvis apice nigris, thoracis lateribus flavo-maculatis et fasciatis, scutello flavo, alis limpidis, *abdomine luteo basi nigro-fasciato lateribus nigro-maculato*, pedibus flavis. Long. $1\frac{1}{2}$–2; alar. 4–5 lin.

Black. Head and thorax clothed with pale, very short, yellow hairs. Antennæ tawny, black towards the tips. Thorax with a pale yellow spot on each side of the fore border, and with a short oblique pale yellow band at the base of each wing; scutellum pale yellow. Wings and alulæ colourless; veins and halteres yellow. *Abdomen luteous; a black band at the base, and on each side a row of black spots, which successively decrease towards the tip.* Legs yellow; tips of the tarsi black.

May be a variety of the preceding species. (E.)

Genus II. **HENOPS.**

HENOPS, Ill: mag. (1806); Mg.; Fb.; Fln.; Ztt. *Musca* p., L. *Syrphus* p., Pz. *Ogcodes* p., Ll. *Ogcodes*, Mq.

Corpus minoris magnitudinis, subglobosum, gibbum, breviter pubescens. Color nigricans. Oculi nudi, obscure fusci, unicolores. *Antennæ ad peristoma insertæ. Alæ vena tertia longitudinali simplici.*

Body small, gibbous, almost globose, downy. Head much contracted in front. Eyes bare, almost contiguous. Ocelli 3, on the crown. Peristoma small, round. Proboscis concealed. "Palpi short, filiform. Labium very small" (Fb.). Antennæ 3-jointed, very small, *seated close to the upper border of the peristoma*, nutant, inclined almost perpendicularly downwards, slightly diverging; first joint very short, patelliform; second more oval; third subulate, somewhat thickened at the tip, which bears two little bristles. Thorax almost round, much broader and thicker than the head; scutellum rounded. Wings lanceolate, incumbent, oblique, longer than the abdomen, not pubescent nor fringed; third longitudinal vein simple. Alulæ large, rounded, quite concealing the little halteres. Abdomen oval, gibbous, very large, with 5 segments, convex above, flat beneath. Legs slender.

These flies resemble the *Acroceræ* in general structure and in habits.

1. **gibbosus,** L. fn. 1815 (1761); Fb.; Gm.; Pz.; Mg.; Fln.; Ll.; Mq.; Ztt.—*leucomelas*, Mg.; Fln.—*marginatus*, Mg.; Ct.! b. e. 110; Ztt.—*limbatus*, Mg. Nigro-fuscus, antennis nigris, thoracis lateribus fulvo-maculatis et fasciatis, alis limpidis, abdomine fusco, segmentorum marginibus posticis ventreque flavis, pedibus fulvis, femoribus nonnunquam nigris. Long. $2\frac{1}{2}$–$3\frac{1}{2}$; alar. 7–9 lin.

Blackish-brown. Head prominent above the antennæ. Peristoma tawny. Thorax clothed with yellow hairs, having a tawny spot on each side of the fore border, and an oblique tawny band at the base of each wing. Wings and alulæ colourless; veins and halteres pale yellow. Abdomen brown; hind borders of the segments pale yellow; underside pale yellow, with a brown border. Legs tawny; femora sometimes black, with yellow tips.

Not rare. (E.)

FAMILY V. ASILIDÆ.

ASILIDÆ, Lch. comp. (1819); Ct.; Wtw. *Rombyliarii* p., Lm. *Empidia* p., Rfn. *Asilici*, Ll.; Fln.; Mg.; Mq.; Ztt.; Ags.; Lw. *Sclerostoma* p., Dmr. *Asilica*, Brm. *Asilites*, Nwm. *Asilinæ*, Rdn.

Corpus magnum aut medium, hirsutum. Frons et vertex impressa.

Epistoma barbatum. Oculi remoti. Proboscis valida, brevis, porrecta aut obliqua. Alæ incumbentes. Abdomen segmentis 8. Pedes sæpissime validi, spinis armati.

Mas. Anus biungulatus.

Fœm. Ungulis analibus nullis.

Body narrow, cylindrical, of large or of middle size, most often bristly. Crown and front impressed. Epistoma armed with bristles. Eyes remote. Proboscis projecting, horny, short, stout, very sharp, horizontal or oblique. Antennæ porrect, approximate at the base, erect; third joint developed, long, distinct from the succeeding joints, which are very small or obsolete; fourth seated on the tip of the third. Wings incumbent, parallel. Halteres uncovered. Abdomen cylindrical, with 7 or 8 segments. Legs stout; tibiæ and tarsi armed with bristles and spines.

These flies are all carnivorous, and are the most powerful and generally the largest of the *Diptera*. They destroy *Coleoptera* and *Hymenoptera*, as well as the insects of their own class, and are most frequent in woods and sandy situations; their flight is silent. The larvæ are apod, smooth, cylindrical, and undergo their metamorphose in the earth or in decayed wood. The genera may be thus divided:—

- Tarsi
  - with onychia: Antennæ
    - not stylated . . . . . 1. LAPHRIA.
    - stylated: Mediastinal areolet
      - closed before the border . . 2. ASILUS.
      - open to the border: Proboscis
        - oblique . . 3. DASYPOGON.
        - horizontal . 4. DIOCTRIA.
  - without onychia . . . . . 5. LEPTOGASTER.

Genus I. **LAPHRIA.**

LAPHRIA, Mg. kl. (1804); Fb.; Ll.; Fln.; Mq.; Zll.; Ct.; Lw. *Asilus* p., L.; Fb.; Dg.; Gm.; Shr.; Pz.; Hbst.; Gfr.

Corpus magnum, robustum, oblongum, hirsutum. Color niger, hirsutie nitente, interdum albescente vel flavescente. *Proboscis porrecta. Antennæ triarticulatæ, non stylatæ; articulus tertius obtusus. Areola mediastinalis clausa. Onychia conspicua.*

Mas. Abdomen angustius; lamellæ 2 magnæ corneæ genitalia supra tegentes.

Fœm. Abdomen latius, magis obtusum; lamellæ anales nullæ.

Body rather large, stout, hairy, bristly. Head contracted, flat, very hairy, as broad as the thorax; epistoma prominent, bristly. Eyes green, flat, and composed of large facets in front. Ocelli 3, on a little tubercle of the crown. Proboscis almost horizontal, about twice the length of the head. Labrum short, conical, channelled beneath somewhat membranaceous at the tip. Lingua small, pointed, as long as the labium, beset above with stiff, thick, revolute hairs along two-thirds of the length to the tip. Maxillæ small, pointed, flat, late, cylindrical, short, hairy; joints of equal length. Labium fringed internally, almost as long as the lingua. Palpi biarticu-cylindrical, with a tubercle beneath at the base. Antennæ porrect, triarticulate, not stylate, approximate at the base, diverging, inclined upward to the height of the head; first and second joints bristly; first cylindrical; second small, cyathiform; third long, bare, subfusiform, compressed, narrow at the base, somewhat dilated in the middle, obtuse at the tip, much longer than the first and second. Thorax oval, rather gibbous; scutellum semicircular. Wings lanceolate, minutely wrinkled, very finely pubescent; mediastinal areolet closed before the border. Halteres uncovered. Abdomen with 7 segments; seventh segment very small. Legs stout, hairy; femora thick; tibiæ curved; tarsi rather long; ungues long; *onychia conspicuous.*

Male. Abdomen almost cylindrical, inflected beneath; tips armed with stout hairy pincers.

Fem. Abdomen obclavate, obtuse.

These flies appear in summer, inhabit woods, and their larvæ live and change to pupæ in the decayed branches. The head, the thorax, the rudiments of the wings, and eight segments of the abdomen are distinctly formed on the outside of the case. The head and the thorax are smooth, and there are a few bristles on the sides of the abdomen. There are four large and four small spines on the head, and the tip of the abdomen is armed with eight spines, which are close together. The back of each segment of the abdomen is beset with a transverse row of small spines.

1. **marginata,** L. s. n. ii. 1008. 10 (1763); Dg.; Shr.; Gm.; Fb.; Fln.; Mg.; Mq.; Zll.; Ztt.; Lw.—*nigra*, Mg.; Ct.! b. e. ii. 94.—*fulgida*? Mg. Nigra, fulvo-hirta, capite aureo, alis fusco-cinereis basi subcinereis, abdomine purpureo-nigro-æneo. Long. 5–6; alar. 8–10 lin.

Black. Head partly gilded, clothed with long black hairs, and in front with tawny hairs. First and second joints of the antennæ clothed

with long black hairs. Thorax tinged with white on each side. Wings brownish-grey, pale grey towards the base. Halteres bright yellow. Abdomen bronze-black, with a slight purple tinge, clothed with short tawny hairs; hind borders of the segments covered on each side with tawny down. Legs clothed with tawny hairs and black bristles; onychia tawny. *Male.* Abdominal appendages large, black, clothed with black hairs.

Not common. (E.)

Genus II. **ASILUS.**

ASILUS, Mg. kl. (1804); Ll.; Fln.; Wd.; Mq.; Ztt.; Ct.; Lw.—*Asilus* p., L.; Fb.; Dg.; Gm.; Shr.; Gfr.; Hbst. *Dasypogon* p., Fb.

Corpus majoris aut mediæ magnitudinis, elongatum, hirsutum. Color sæpissime niger, hirsutie cinerascente; raro lutescens. Oculi unicolores. *Antennæ* 5-articulatæ, stylatæ. *Areola mediastinalis clausa.* Tibiæ pilosæ et spinulosæ. *Onychia conspicua.*

Mas. Genitalia prominula; cauda forficata cornea.

Fœm. Anus stylis 2 corneis acuminatus, productus.

Body narrow, cylindrical, bristly. Head rather small, semicircular, transverse, much compressed between the eyes, with a small deeply depressed front, very hairy beneath the mouth; epistoma prominent, beset with bristles. Eyes green. Ocelli 3, seated on a little tubercle. Proboscis projecting, oblique, somewhat curved, as long as the head. Labrum short, broad, arched, obtuse, half the length of the labium, coriaceous at the base, membranaceous and obliquely truncated at the tip. Lingua stiff, flat, pointed, clothed above with reverted velvet-like hairs, as long as the labium. Maxillæ stiff, truncated, linear, rather dilated and membranaceous towards the tips, exceeding the labrum in length. Palpi cylindrical, clavate, obtuse, hairy, curved upwards. Labium thick, hairy, tumid beneath. Antennæ 5-jointed, porrect, *stylate*, hardly larger than the head, inserted in the middle of the face, approximate at the base, diverging, inclined upward; first and second joints bristly; first cylindrical; second cyathiform, short; third long, subulate, compressed, bare; fourth and fifth very short. Thorax most often with dark and sometimes divided stripes, of which the middle one is shortened in front, and those on the sides are interrupted. Scutellum small. Wings lanceolate, very finely pubescent; *mediastinal areolet closed.* Alulæ small, very narrow; their borders fringed. Halteres long, uncovered. Abdomen with 7 segments, long, lanceolate; hind part gradually tapering. Legs stout, bristly; tibiæ straight, spinose. *Onychia conspicuous.*

The *Asili* are more generally distributed than the other genera of this family, and are most frequent in sandy situations; their

food is chiefly small *Diptera,* which they hold between their fore legs. The larva lives in the earth; it has 12 segments; is apod, rather long, somewhat flat, smaller at each end, with a horny head; it sheds its skin during the change into a pupa. The head of the pupa is armed with two robust spines in front, and on each side with 3 smaller spines, which are connected at the base; the abdominal segments are fringed with spines. The British species comprise the following groups or subgenera of Loew:—

a. Ovipositor compressed.
- *b.* Thorax bristly to the front. Group LOPHONOTUS. Species 1.
- *b b.* Thorax bristly to the middle.
  - *c.* Terminal lamellæ oval, compressed. EUTOLMUS. Species 2.
  - *c c.* Terminal lamellæ free, almost stylate.
    - *d.* Hind border of the eighth abdominal segment of the male widened. MACHIMUS. Species 3–8.
    - *d d.* Hind border of the eighth abdominal segment of the male not widened.
      - *e.* Body yellowish-grey, or ash-grey. Legs striped or banded with reddish-yellow. EPITRIPTUS. Sp. 9.
      - *e e.* Body more or less blackish-grey. Legs black; tibiæ generally red.
        - *f.* Abdominal appendages of the male very thickly clubbed. Ovipositor formed of the sixth and seventh segments. ITAMUS. Species 10.
        - *f f.* Appendages of the male not thickly clubbed. CERDISTUS. Species?

a a. Ovipositor not compressed.
- *b.* Abdomen without bristles on the sutures.
  - *c.* Abdomen with moderately long straggling hairs. PAMPONERUS. Species 11.
  - *c c.* Abdomen pubescent, depressed.
    - *d.* Large bright-coloured species. ASILUS. Species 12.
    - *d d.* Small blackish-grey species. RHADIURGUS. Sp.?
- *b b.* Abdomen with bristles on the sutures.
  - *c.* First joint of the anterior tarsi unusually short. ECHTHISTUS. Species?
  - *c c.* First joint of the anterior tarsi not shortened.
    - *d.* Ovipositor very compactly clubbed, closely contracted beneath. ANTIPALUS. Species 13.
    - *d d.* Ovipositor conical, beset with spines at the tip. PHILONICUS. Species 14.

1. **cristatus,** Hffg.; Mg. zw. ii. 322. 24 (1820). Fuscus, capite cano, antennis nigris, thorace cinereo-subtrivittato lateribus cano, alis limpidis, pedibus nigris. Long. 5–6; alar. 9–10 lin.

Brown. Head hoary, covered with pale tawny down, thickly clothed beneath with yellowish-white hairs; a fringe of black bristles behind the eyes; epistoma convex, beset with yellowish-white bristles, on each side and above with fewer black bristles. Proboscis, palpi, and antennæ black; first joint of the latter clothed with tawny hairs and black bristles. Thorax with 3 indistinct cinereous stripes, clothed with long black hairs, beset on each side with yellowish-white bristles; sutures and sides hoary. Wings colourless; veins black, slightly clouded, tawny at the base. Halteres tawny. Hind borders of the abdominal segments beset with yellowish-white bristles. Legs black, clothed with short pale tawny hairs, and with a few long black hairs, armed with pale yellow spines; tarsi armed with black spines.

Not rare. (E.)

2. **rufibarbis,** Mg. zw. ii. 311. 6 (1820). Cervinus, antennis nigris, thorace fusco-quadrivittato, alis subcinereis, apicibus marginibusque posticis obscurioribus, abdomine supra fusco segmentorum marginibus posticis cervinis, pedibus nigris. Long. 9½; alar. 16 lin.

Fawn-colour. Head thinly clothed on the crown with black hairs, thickly clothed beneath with pale yellow hairs; a fringe of black bristles behind the eyes; epistoma convex, beset with black bristles above, and more thickly with pale yellow bristles below. Proboscis, palpi, and antennæ black; first and second joints of the latter clothed with black hairs; tips of the second joint and base of the third joint tawny. Thorax thinly clothed with black hairs, beset with 4 rows of black bristles, having 4 brown stripes, the inner pair partly united, the outer pair short and interrupted. Wings pale grey, darker along the hind borders and at the tips; veins black, tawny towards the base and along the fore border. Halteres tawny. Abdomen brown above, clothed with short tawny hairs; hind borders of the segments fawn-colour, beset with pale yellow bristles; tips black, shining. Legs black, clothed with tawny hairs, armed with black spines; a tawny spine on each hind tibia.

Rare. In Mr. Saunders's collection. (E.)

3. **basalis,** Lw. l. e. iv. 16. 26. Var.? *Cervinus, antennis nigris, thorace fusco cervino-subtrivittato,* alis subfuscis limpido ad discum subvittatis, abdomine subcinereo cano-fasciato, apice pedibusque nigris. Long. 6; alar. 11 lin.

Fawn-colour. Head clothed beneath with white hairs, beset behind with white and with a few black bristles; epistoma prominent, beset with white bristles, and towards the antennæ with a few black bristles. Antennæ black; first and second joints beset with black bristles. Thorax thinly clothed with short black hairs, beset on each side and on the hinder part with a few white and black bristles; *disc brown, excepting 3 indistinct stripes.* Wings pale brown, colourless along the veins in the disc. Halteres luteous. Abdomen greyish, clothed with short

whitish hairs; hind borders of the segments hoary, beset with white bristles. Legs black; femora and tibiæ clothed with short white hairs, beset with white bristles; tarsi beset with black and white bristles.

Very rare. In Mr. Stephens's collection.

4. **forcipatus,** L. fn. 1914 (1761); Fb.; Gm.; Shr.; Ll.; Fln.; Mg.; Mq.—*cinereus,* Dg.—*forcipula*? Zll.; Ztt. *Cinereus,* antennis nigris, *thorace fusco-quadrivittato,* alis basi et ad costam fulvis ad apices et ad margines posticos cinereis, abdominis apice nigro, pedibus nigris. Long. 8½; alar. 13 lin.

Cinereous. Head thickly clothed beneath with pale yellow hairs; a few black hairs on each side of the crown; behind the eyes a fringe of white bristles, with which a few black bristles are mixed; epistoma convex, beset with black bristles above, and with more pale yellow bristles below. Proboscis and palpi black, the latter clothed with tawny hairs. Antennæ black; first and second joints clothed with black hairs. Thorax clothed with short black hairs, beset on each side and behind with black bristles, *having 4 dark brown stripes*; the middle pair partly united; *the outer pair short, broad, and interrupted.* Wings grey towards the tips and along the hind borders, tawny along the fore borders towards the base; veins black, tawny towards the base and along the fore borders. Halteres tawny. Abdomen clothed with short tawny hairs; sides of the hind borders of the segments beset with pale yellow bristles; tip black, shining. Legs black, clothed with tawny hairs, armed with black spines.

Generally distributed. (E. I.)

5. **fimbriatus,** Mg. zw. ii. 320. 20 (1820); Mq.—*pilipes*? Mg.; Mq.—*colubrinus*? Hffg. Mg.; Lw. *Cervinus, capite albido,* antennis nigris, *thorace fusco-vittato,* alis sublimpidis, abdominis segmentorum marginibus posticis canis, alis nigris. Long. 9; alar. 16 lin.

Fawn-colour. Head whitish behind and beneath, clothed with white hairs beneath, fringed behind with white bristles and with a very few black bristles; epistoma rather prominent, beset with white bristles, and towards the antennæ with a very few black bristles. Antennæ black; first and second joints beset with black bristles. Thorax thinly clothed with black hairs, beset on each side with a few black bristles and with very few white bristles, *having 3 broad brown stripes, the middle stripe divided along the fore half.* Wings almost imperceptibly tinged with grey, colour less in the disc and towards the base. Halteres yellow. Hind borders of the abdominal segments hoary, beset with white bristles; tip black, shining, compressed. Legs black, shining, clothed with short hoary hairs; femora and tibiæ beset with white bristles; tarsi beset with black bristles.

Rare. In the collection of the Entomological Club. (E.)

6. **obscurus,** Mg. zw. ii. 315. 12 (1820); Mq.—*gonatistes*? Zll.; Lw. Canus, antennis nigris, *thorace fusco-trivittato;* alis sub-

cinereis, abdominis disco interrupte fusco, pedibus nigris. Long. 7–8; alar. 12–13 lin.

Hoary, very slightly tinged with fawn-colour. Head clothed beneath with white hairs, fringed behind with white bristles; epistoma very prominent, beset with a few black bristles, and towards the peristoma with more white bristles; sides of the peristoma beset with slender white bristles. Antennæ black; first and second joints beset with black bristles. Thorax clothed with short black hairs, beset on each side with long white bristles, *having 3 broad brown stripes, the middle one imperfectly divided by a paler stripe.* Wings pale grey. Halteres tawny. Disc of the abdomen brown, except the hind borders of the segments, which are hoary and beset with white bristles. Legs black, clothed with hoary; femora and tibiæ beset with white bristles; tarsi beset with black bristles.

Rare. In Mr. Stephens's collection. (E.)

7. **rusticus,** Mg. zw. ii. 311. 7 (1820); Lw.—*genualis,* Ztt. *Cinereus,* capite fulvo, antennis nigris, *thorace fusco-quadrivittato,* alis ad apices et ad margines posticos cinereis, abdominis apice nigro, pedibus nigris. Long. 8½–9; alar. 13–14 lin.

Cinereous. Head with a pale tawny covering, thickly clothed beneath with yellowish-white hairs; a few black hairs on each side of the crown, and a fringe of white bristles behind the eyes; epistoma very convex, beset with yellowish-white bristles; a few black bristles above and on each side. Palpi black, clothed with pale hairs. Antennæ black; first and second joints clothed with yellowish-white hairs. Thorax clothed with short black hairs, beset on each side and behind with white bristles, *having 4 brown stripes; middle pair partly united; side pair broader, interrupted.* Wings grey at the tips and along the hind borders; veins black, tawny at the base. Halteres tawny. Abdomen clothed with short tawny hairs; sides and hind borders of the segments brown; tip black. Legs black, clothed with tawny hairs, armed with yellowish-white spines; hind tarsi armed also with black spines; tibiæ red at the base.

Rare. In Mr. Saunders's collection. (E.)

8. **atricapillus,** Fln. d. s. 10. 5 (1814); Mg.; Ztt.; Lw.—*opacus,* Mg.; Mq.—*calceatus,* Mg.—*bicornis,* Zll.—*subulatus,* Lw.—*rufimanus*? Mg.; Mq.—*plebeius*? Mg.; Mq. *Cervinus,* antennis nigris, *thorace fusco-quadrivittato,* alis cinereis basi limpidis, abdominis segmentorum marginibus posticis fuscis, pedibus rufis nigro-vittatis; *Mas.* abdominis apice ferrugineis; *Fœm.* abdominis apice nigro. Long. 4–8; alar. 7–13 lin.

Dark fawn-colour. Head clothed with pale tawny hairs, which are thick beneath; a few black hairs on the crown, and a fringe of black bristles behind the eyes; epistoma slightly convex, beset with black bristles above, and with a nearly equal number of pale yellow bristles

below. Palpi black, clothed with black hairs. Antennæ black; first and second joints clothed with tawny hairs, beset with black bristles. Thorax clothed with short black and tawny hairs, beset on each side and behind with a few black bristles, *having* 4 *brown stripes, the inner pair partly united,* the outer pair short and interrupted. Wings grey, colourless at the base and in part of the disc; veins black, tawny at the base. Halteres tawny. Abdomen clothed with short tawny hairs, beset along each side with a few black and whitish bristles; hind borders of the segments brown. Legs red, clothed with short pale tawny hairs, armed with black spines; femora and tibiæ striped with black; a few whitish spines on the hind femora; ungues red at the base. *Male.* Tip of the abdomen ferruginous. *Fem.* Tip of the abdomen black.

Rare. In the collection of the Entomological Club. (E.)

9. **cingulatus,** Fb. s. a. 172. 36 (1805); Shr.; Mg.; Fln.; Mq.; Zll.; Lw.—*annulatus,* Mq. Cervinus, antennis nigris, thorace subvittato, alis subcinereis, abdomine cano-fasciato, pedibus ferrugineis, tibiis apice femoribusque nigris. Long. 5½; alar. 9 lin.

Dark fawn-colour. Head clothed behind and beneath with white hairs, beset behind the eyes with a fringe of black bristles; epistoma prominent, thickly beset with white bristles, and more thinly towards the antennæ with black bristles. Antennæ black; first and second joints bristly. Thorax clothed with black hairs and bristles, indistinctly striped. Wings pale grey, a little darker at their tips. Halteres tawny. Abdomen thinly clothed with short black hairs, not bristly; a hoary band on the hind border of each segment. Legs ferruginous, clothed with short white hairs; tibiæ and tarsi beset with black bristles; femora and tips of the tibiæ mostly black. *Male.* Appendages of the abdomen ferruginous, shining, curved, not large.

Rare. (E. I.)

10. **æstivus,** Shr. i. A. 996 (1781); Mg.; Mq.; Zll.; Ztt.—*niger*? Dg.—*tibialis,* Fln.—*tabidus*? Mg.—*cyanurus,* Lw. Nigro-fuscus, antennis nigris, thorace cinereo nigro-quadrivittato, alis limpidis apice subcinereis, abdominis apice nigro, segmentorum marginibus posticis canis, pedibus nigris, tibiis luteis; *Mas.* abdomine apicem versus cyaneo. Long. 7–8; alar. 12–14 lin.

Blackish-brown. Head covered with pale tawny shining down, clothed on each side of the crown with black hairs, and more thickly beneath with white hairs; a fringe of black bristles behind the eyes; epistoma convex, beset above with black bristles, and more thickly below with yellowish-white bristles. Palpi black, clothed with black hairs. Antennæ black; first and second joints clothed with long black hairs. Thorax with 4 rows of black bristles; its cinereous covering interrupted by 4 black stripes; the outer pair short, broad and interrupted. Wings colourless, pale grey towards the tips; veins

black. Halteres tawny. Abdomen clothed with short pale tawny hairs; segments beset on each side with tufts of tawny bristles; hind borders hoary; tip black, shining. Legs black; femora clothed with short pale tawny hairs, beset with pale tawny and black bristles; tibiæ luteous with black tips, clothed like the tarsi with black hairs and bristles. *Male.* Abdomen blue towards the tip.

Not common. (E. I.)

11. **germanicus,** L. s. n. ii. (1763); Fb.; Shr.; Pz.; Gm.; Fln.; Mg.; Ct.! b. e. i. 46; Mq.; Zll.; Ztt.; Lw.—*tibialis*, Fb. Niger, antennis nigris, thorace fulvo fusco-quadrivittato apice cano, alis fuscis basi albis, pedibus luteis, tibiis tarsisque apice femoribusque nigris. Long. 7–8; alar. 13–15 lin.

Black, clothed with tawny hairs, covered here and there with tawny down. Head thickly clothed beneath with pale tawny hairs; epistoma very convex, beset with black bristles, and towards the peristoma with tawny bristles. First and second joints of the antennæ clothed with black hairs. Thorax with a tawny covering, which is interrupted by 4 dark brown stripes, the inner pair of stripes almost united, the outer pair interrupted; hind part with a hoary covering; sides and scutellum beset with a few black bristles. Wings brown, white for nearly half the length from the base; veins black, tawny towards the base. Halteres yellow. Legs luteous; femora and tips of the tibiæ and of the tarsi black. *Male.* Facets of the fore parts of the eyes smaller than in the other species.

Rare. (E. S.)

12. **crabroniformis,** L. fn. 1008 (1761); Fb.; Gfr.; Mg.; Ll.; Fln.; Mq.; Ztt.; Lw. Fulvus, capite aureo, antennis nigris, thorace fusco-quadrivittato, alis fulvis, areolarum discis margine postico fuscis, abdomine nigro, segmentorum marginibus posticis utrinque albidis, ventre apiceque ferrugineis, femoribus rufo-fuscis. Long. 11–12; alar. 20–22 lin.

Bright tawny, clothed with tawny hairs. Head gold-colour, thickly clothed beneath with golden hairs; epistoma very convex, beset with numerous tawny bristles; a fringe of tawny bristles behind the eyes. Antennæ black; first and second joints tawny; first joint beset with black bristles; second with a few tawny bristles. Thorax with 4 brown stripes, the outer pair shorter, broader, and less distinct than the inner pair; pectus and metathorax reddish-brown. Wings tawny; discs of the areolets brown along the hind border; veins tawny. Halteres tawny, with black tips. First, second, and third segments of the abdomen black, clothed with black hairs, whitish and clothed with pale hairs on each side of the hind borders of the segments; underside ferruginous. Femora and hind tibiæ reddish-brown, the latter sometimes tawny. *Male.* Tip of the abdomen ferruginous. *Fem.* Tip of the abdomen brown.

Generally distributed. (E.)

13. **varipes,** Mg. zw. ii. 328. 33 (1820). Cervino-canus, antennis nigris, thorace nigro-trivittato, alis limpidis apice margineque postico subfuscis, abdomine fusco-univittato, pedibus rufis nigro-cinctis. Long. 6–6½; alar. 11–12 lin.

Hoary, tinged with fawn-colour. Head fringed behind and above with black bristles, thickly clothed beneath with white hairs; epistoma rather prominent, thickly beset with black bristles and having a few slender white bristles towards the peristoma. Antennæ black; first and second joints beset with black bristles. Thorax beset along the borders with black bristles; its disc black, with the exception of 3 slender stripes, the middle one not extending half the length from the fore border. Wings colourless, pale brown towards the tips and along the hind borders. Halteres tawny. Abdomen with a broad brown stripe; hind borders of the segments pale hoary, interrupting the brown stripe, beset with white bristles. Legs red, beset with black bristles; femora black above, with red tips; tips of the tibiæ black; tarsi black, red at the base.

Not rare. (E.)

14. **albiceps,** Mg. zw. ii. 312. 8 (1820). Cinereus, capite albido, antennis nigris, thorace fusco-quadrivittato, alis albidis, abdominis segmentorum marginibus posticis albidis apice nigro, pedibus nigris. Long. 8½; alar. 12 lin.

Cinereous. Head whitish, thickly clothed beneath with white hairs; a few black hairs on each side of the crown, and a fringe of white bristles behind the eyes; epistoma very convex, beset with whitish bristles and above with 4 or 6 black bristles. Palpi thinly clothed with pale hairs. Antennæ black; first and second joints beset with black bristles. Thorax thinly clothed with short black hairs, beset on each side and behind with a few black bristles, having 4 brown stripes, the inner pair nearly united, the outer pair short, broad, and interrupted. Wings whitish; veins tawny, slightly clouded. Halteres yellow, tawny at the base. Abdomen clothed with short white hairs; hind borders of the segments whitish, beset with a few white bristles; tip black, shining. Legs black, clothed with short white hairs; femora and tibiæ armed with white spines; tarsi armed with black spines, clothed beneath with tawny down.

Rare. In the collection of the Entomological Club. (E.)

Genus III. **DASYPOGON.**

Dasypogon, Mg. kl. (1804); Pz.; Fln.; Ll.; Mq.; Ct.; Ztt.; Lw. *Asilus* p., L.; Fb.; Gm.; Pz. *Dasypogon* p., Fb. *Dioctria* p., Mg. kl.; Fb.

Corpus magnæ aut mediæ magnitudinis, oblongum, hirsutulum. Color

niger, abdominis pictura sæpe albo-maculata vel fasciata. *Proboscis obliqua. Antennæ quinque-articulatæ, stylatæ. Areola discoidalis aperta.* Tibiæ pilosæ et spinulosæ. *Onychia conspicua.*

Mas. Anus obtusus, subglobosus; lamellæ scilicet laterales breves, corneæ, convexæ, genitale obtegentes.

Fœm. Anus acutior, mucronulatus, seu spinulis brevibus semicirculum fingentibus posticis armatus.

Body narrow, almost cylindrical. Head short, nearly semicircular, as broad as the thorax, compressed in the front, which is broad; epistoma convex, beset with bristles; underside and hind part of the head hairy. Eyes green, elliptical. Ocelli 3, on the crown. *Proboscis* porrect, *oblique*, as long as the head, or a very little longer. Labrum small, very short, conical, flat, pointed, very slightly widened in front, clothed above towards the tip with thick, retracted hairs. Lingua long, acute. Maxillæ long, linear, flat, pointed, submembranaceous towards the tips. Palpi biarticulate, short, hairy, of various form. Labium large, tumid, narrow at the base, channelled above, hairy beneath and at the obtuse tip. Antennæ porrect, 5-jointed, *stylate*, inserted in the middle of the face, as long as the head, approximate at the base, diverging, inclined upward; first and second joints hairy, almost equally long, subcylindrical, somewhat more slender at the base; third lengthened, pubescent, compressed, somewhat smaller at each end; fourth very short; fifth like a style. Thorax oval, very convex; scutellum rounded. Wings moderately broad, obtusely lanceolate, very finely pubescent; mediastinal areolet open. Alulæ small, entire. Halteres uncovered. Abdomen with 7 segments, cylindrical, convex, in some species slightly depressed; first segment short, arched; tip obtuse. Legs stout, bristly; tibiæ straight. *Onychia conspicuous.*

The habits of the insects of this genus are similar to those of the *Asili*, and the species are more peculiar to warm regions. The two British species are comprised in the following groups or subgenera of Loew:—

a. Tips of the fore tibiæ armed with spines. DASYPOGON, Species 1.
a a. Tips of the fore tibiæ without spines. ISOPOGON, Species 2.

1. **punctatus,** Fb. s. i. ii. 463. 15 (1781); Gm.; Pz.! fn. xlv. 24; Ll.; Mg.; Mq.; Zll.—*diadema*, Fb.; Gm.; Pz.! fn. xlv. 23; Lw.—*nervosus*, Pz. fn. cv. 9; Mg. Ater, capite antico albo-pubescente; *Mas.* epistomate nigro-setoso, alis nigris; *Fœm.* epistomate albo-setoso, alis subcinereis apice fuscis, abdominis lateribus albo-maculatis apice rufo. Long. 9–11; alar. 16–19 lin.

Black. Front of the head clothed with white shining down. *Male.* Epistoma beset with black bristles. Wings black, paler along the hind borders. *Fem.* Epistoma beset with white bristles. Wings pale grey; their tips tinged with brown. A row of white spots along the sides

of the abdomen, whose fourth and following segments are more or less red.

Very rare; has been found near Bristol. In the British Museum. (E.)

2. **brevirostris,** Mg. kl. i. 255. 1 (1804); Ct.! b. e. 153; Mq.; Ztt.; Lw.—*armillatus,* Fln.—*longitarsis,* Fln. Niger, capite cano, alis limpidis, tibiis plus minusve rufis; *Mas.* alis apice fuscis, tarsorum posticorum articulo primo longissimo; *Fœm.* alis basi fuscis. Long. 4–4½; alar. 8–9 lin.

Black. Head hoary; epistoma hardly convex. Palpi cylindrical. Wings colourless, extending beyond the abdomen. Veins black, tawny at the base. Halteres tawny, with yellow knobs. Abdomen thickly punctured, clothed with short hoary hairs. Tibiæ more or less red. *Male.* Head thickly clothed with whitish hairs behind and beneath; crown clothed with black hairs. Epistoma thickly clothed with long black hairs. Fore part of the eyes nearly flat, composed of large facets. First and second joints of the antennæ clothed with black hairs. Thorax clothed with long hoary hairs. Tips of the wings brown. Legs clothed with short black hairs; tibiæ towards the base and femora clothed with hoary hairs; tibiæ red towards the tips; fore tibiæ sometimes quite black; hind metatarsus as long as the hind tibiæ. *Fem.* Crown clothed with pale yellow hairs. Epistoma thickly clothed with tawny hairs. First and second joints of the antennæ clothed with pale yellow hairs. Thorax thickly clothed with tawny hairs. Wings brown towards the base. Tibiæ clothed with yellow hairs; hinder tibiæ red, with black tips. Hind metatarsus nearly half the length of the hind tibia.

Generally distributed. (E. S.)

Genus IV. **DIOCTRIA.**

Dioctria, Mg. kl. (1804); Fb.; Ll.; Fln.; Mq.; Ct.; Zll.; Ztt.; Lw. *Asilus* p., Fb.; Gm.; Gfr.; Shr.

Corpus majoris vel mediæ magnitudinis, sublineare, glabriusculum. Color niger, obscurus; abdominis latera nonnunquam flavo-picta. Oculi unicolores, non lineati. *Proboscis vix obliqua. Antennæ quinque-articulatæ, non stylatæ*; articulus tertius longus, linearis; quartus et quintus breves. *Areola mediastinalis aperta.* Tibiæ parce spinulosæ, posticæ intus villosæ seu ciliatæ. Onychia conspicua.

Mas. Abdomen medio gracilius, magis coarctatum.

Fœm. Abdomen paullo crassius, sublineare.

Body slender, black, shining, somewhat bare, of large or middling size. Head very flat, compressed in front; front broad in both sexes.

Epistoma flat, broad, clothed with shining down on each side, beset with a few bristles in front. Eyes generally green, rarely violet; fore part flat, composed of large facets. Three ocelli on the crown. *Proboscis* porrect, short, *almost horizontal.* Labrum conical, very short. Lingua subulate, flat, clothed towards the tip with short velvet-like retracted hairs, as long as the labium. Maxillæ subulate, flat, pointed, almost as long as the lingua. Palpi short, cylindrical, truncated, bristly. Labium bristly, arched beneath, channelled above, small in front. *Antennæ* porrect, 5-*jointed, not stylate,* seated on a tubercle, closely approximate at the base, curved, diverging, longer than the head; first and second joints bristly; first joint cylindrical; second shorter than the first; almost cyathiform; third long, compressed; fourth and fifth very short, forming an obtuse tip. Thorax oval, almost bare, often striped on the back, and gilded or silvery on each side. Wings lanceolate, narrow, obtuse, very finely pubescent; *mediastinal areolet open.* Alulæ small, entire. Halteres uncovered. Abdomen with 7 segments, bare, almost cylindrical, sometimes marked with yellow on each side; first segment broader and more arched than the following. Legs slender, slightly bristly or quite bare; femora and tibiæ straight; hinder tibiæ finely fringed with hairs; fore tibiæ slightly hairy by the spurs; hind tarsi slightly clavate. *Onychia conspicuous.*

These flies inhabit meadows, trees, and bushes, during the summer, and are more abundant than those of the preceding genus; they feed chiefly on small *Diptera*; some species prey upon *Hymenoptera.*

1. **œlandica,** L. s. n. ii. 1008. 15 (1763); Fb.; Shr.; Gfr.; Gm.; Mg.; Ll.; Fln.; Mq.; Zll.; Ztt.; Lw. Nigra, thorace albido-quadrivittato, *alis nigricantibus,* pedibus rufis, tibiis apice tarsisque nigris. Long. 6–7; alar. 10–12 lin.

Black, shining, clothed with black hairs. Head with a white covering beneath, and on each side of the front. Epistoma convex, beset with yellow bristles. Palpi clothed with long black hairs. First and second and the base of the third joint of the antennæ clothed with black hairs. Thorax with 2 whitish stripes on the back, and with an oblique yellowish white stripe on each side. *Wings blackish*; discs of the areolets paler towards the tips and along the hind border; veins black. Halteres yellow. Legs red, clothed with short tawny hairs; tibiæ and tarsi armed with tawny spines; tarsi and tips of the tibiæ black; claws tawny, with black tips; onychia yellow.

Generally distributed. (E. S.)

2. **cothurnata,** Mg. zw. ii. 244. 6 (1820).—*Meigenii,* Sd. ent. 141. 26. Atra, thorace cinereo-trivittato, lateribus abdominisque segmentorum marginibus posticis ferrugineis, *alis limpidis,* pedibus fulvis, *tibiis apices versus tarsisque piceis.* Long. 7½; alar. 13 lin.

Black, shining. Head clothed in front with shining yellowish-white down; epistoma beset with yellowish-white bristles. Thorax with 3 grey stripes, more or less ferruginous on each side. *Wings colourless*; veins piceous, tawny towards the base and along the fore border. Halteres tawny. Hind borders of the abdominal segments ferruginous. Legs tawny; *tibiæ towards the tips and tarsi piceous.*

Rare. In the collections of Mr. Desvignes and of Mr. Stephens. (E.)

3. **rufipes,** Dg. i. vi. 97. 6 (1752); Mg.; Mq.; Ztt.; Lw.—*frontalis,* Mg. kl.; Fb.; Ll.—*flavipes* var., Fln. Nigra, *thorace canobivittato, lateribus flavo-albo notatis, alis fulvo-subcinereis,* pedibus rufis, tarsorum articulis apice *pedibusque posticis nigris.* Long. 5–7; alar. 8–10 lin.

Black, shining. Head with a shining pale yellow covering, clothed beneath and behind with whitish hairs. Epistoma convex, clothed with long pale yellow hairs. Palpi clothed with tawny hairs. First, second, and the base of the third joint of the antennæ clothed with black hairs. Thorax clothed with short tawny hairs, *with* 2 *hoary stripes on the back, and with some yellowish-white shining marks on each side. Wings pale grey, with a very slight tawny tinge*; veins black, tawny at the base. Halteres yellow. Legs red, clothed with short tawny hairs; tibiæ and tarsi armed with a few tawny spines; tips of the joints of the tarsi and of the claws black; *hind legs black; femora and tibiæ red at the base.*

Generally distributed. (E.)

4. **flavipes,** Mg. kl. i. 257. 2 (1804); Fln.; Mq.; Ztt.; Lw.—*hyalipennis,* Fb.—*varipes,* Mg.; Mq.—*frontalis,* Mg.; Mq.—*rufipes,* Zll.; Lw. Nigra, *thorace cinereo-trivittato, alis limpidis, abdominis segmentis apice fulvis, pedibus flavis nigro-variis, tarsis fulvis; Mas.* abdomine segmentis tertio et quarto basi fulvis. Long. 4–5; alar. 8–10 lin.

Black, shining. Head clothed beneath and behind with short white hairs. Epistoma almost flat, silvery, beset with a few bristles. Palpi clothed with a few black hairs. First, second, and the base of the third joint of the antennæ clothed with a few short black hairs. *Thorax with* 3 *cinereous stripes, the middle one narrow and linear, the other* 2 *broad and irregular*; sides cinereous. *Wings colourless*; veins black, yellow towards the base. Halteres yellow. Abdomen very slender; *hind borders of the segments tawny. Legs yellow,* armed with a few yellow spines; *tarsi tawny*; tips of the claws black; hind legs thickly clothed beneath with short pale yellow hairs; hind femora striped with black above, with brown beneath; hind tibiæ black, yellow at the base. *Male.* Third and fourth abdominal segments tawny at the base; appendages tawny.

Generally distributed. (E.)

5. **fuscipennis,** Fln. d. s. asil. 7. 3 (1814); Zll.; Ztt.; Lw.—*atricapilla,* Mg.; Fln.; Mq.; Lw.—*atrata,* Mg.—*nigripes,* Mg.; Mq.—*Fallenii,* Mg.—*rufimana,* Lw.—*geniculata,* Mg.; Lw.—*fuscipes,* Mg.; Mq. Nigra, capite antico utrinque ferrugineo, *thoracis lateribus aureo-vittatis; Mas. alis nigricantibus apice fuscescentibus; Fem. thorace bivittato, alis fuscescentibus.* Long. 4–5½; alar. 7–10 lin.

Black, shining. Head ferruginous on each side in front. Epistoma nearly flat. Palpi clothed with black hairs. First, second, and base of the third joint of the antennæ clothed with a few black hairs. *Thorax with an oblique gilded stripe on each side.* Veins of the wings black. *Male.* Head clothed behind and beneath with black hairs. Epistoma beset with 8 or 10 black bristles. *Wings blackish for full half the length from the base, brownish from thence to the tips.* Halteres luteous, tawny towards the base. Legs clothed with very short tawny hairs, armed with black spines. *Fem.* Head clothed behind and beneath with dark tawny hairs. Epistoma pale gold-colour or almost white, beset towards the peristoma with a few pale yellow bristles. *Thorax* clothed with very short tawny hairs, *which are interrupted by 2 stripes. Wings brownish, darkest towards the base.* Halteres tawny. Hind borders of the abdominal segments lurid. Legs thickly clothed beneath with very short pale yellow hairs, armed with tawny spines.

Generally distributed. (E.)

6. **Reinhardi,** Wd.; Mg. zw.! ii. 247. 13. pl. 19. f. 19, 24 (1820); Mq.; Zll.; Lw. Nigra, *thorace cinereo-bivittato, alis subcinereis ad costam et ad venas subfuscis, femoribus tibiisque basi fulvis.* Long. 6; alar. 10 lin.

Black, shining. Head clothed beneath and behind with tawny hairs. Epistoma slightly convex, partly gilded, thickly beset with pale yellow bristles. Palpi clothed with tawny hairs. First, second, and the base of the third joint of the antennæ clothed with a few black hairs. *Thorax with 2 cinereous stripes; sides and metathorax partly cinereous. Wings pale grey, slightly clouded with brown on the fore border and along the sides of the veins*; veins black, tawny at the base. Halteres tawny. Abdomen clothed at the tip with short tawny hairs. Legs armed with tawny spines, clothed with very short tawny hairs; *femora and tibiæ tawny at the base.*

Rare. In the collection of the Entomological Club. (E.)

7. **Baumhaueri,** Mg. zw. ii. 245. 9 (1820); Mq.; Lw. Nigra, *thoracis lateribus pectoreque argenteis, disco cinereo nigro-bivittato, alis subcinereis, abdomine nigro-æneo,* segmentorum marginibus posticis apicem versus fulvis, *pedibus rufis nigro-vittatis.* Long. 4–5; alar. 7–9 lin.

Black, shining. Head clothed beneath and behind with short pale yellow hairs. Epistoma gilded, almost flat, beset with a few pale

yellow bristles. Palpi clothed with tawny hairs. First and second joints of the antennæ clothed with a few black hairs. *Thorax silvery on each side and beneath; the disc cinereous, with 2 slender black stripes. Wings very slightly grey*; veins black, slightly clouded with brown towards the base, where they are tawny. Halteres yellow. *Abdomen bronze-black*; hind borders of the segments towards the tip dark tawny. *Legs red*, armed with tawny spines; *femora and anterior tibiæ striped with black; hind tibiæ black, red at the base; tarsi black at the base of each joint.*

Not rare. (E.)

Genus V. **LEPTOGASTER.**

LEPTOGASTER, Mg. kl. (1804); Fln.; Mq.; Zll.; Ztt.; Lw. *Asilus* p., Dg.; Gfr.; Fb.; Shr. *Dasypogon* p., Fb. *Gonypes*, Ll.; Mq.

Corpus medium aut minus, glabriusculum, angustum. Color cinereus, opacus. Oculi virides, unicolores. *Proboscis porrecta. Antennæ quinque-articulatæ, stylatæ*; articulus tertius longus; quartus brevissimus. Alæ breves; *areola mediastinalis* aperta. Abdomen fragile, elongatum, sublineare. Pedes inermes, glabriusculi; tibiæ rectæ. *Onychia nulla.*

Body of middle size, slender, almost bare. Head flat, semicircular; front contracted. Epistoma flat, furnished with a few bristles. Eyes large, green, in front nearly flat, and composed of large facets. Ocelli 3, seated on a tubercle. *Proboscis* short, *horizontal.* Labrum short, clavate. Lingua flat, narrow, pointed, as long as the labium, beset above towards the tip with retracted hairs. Maxillæ flat, narrow, linear, pointed, as long as the lingua. Palpi calvate, almost bare, probably one-jointed; the tips beset with some short bristles. Labium tumid, excavated above, somewhat dilated in the middle, obtuse and hairy at the tip. *Antennæ 5-jointed*, porrect, *stylate*, approximate at the base, diverging upwards; first and second joints short, equally long, almost cylindrical, somewhat more slender at the base, hardly bristly; third long, clavate, compressed, bare; fourth very short; fifth cylindrical, hairy, pointed. Thorax nearly globose, almost without bristles. Wings narrow, lanceolate, very finely pubescent, with fringed hind borders; *mediastinal areolet open.* Alulæ small. Halteres uncovered. Abdomen with 7 segments, bare, slender, very long. Legs slender; hind legs long, with clavate femora and tibiæ. *Onychia none.*

Male. Abdomen cylindrical.

Fem. Abdomen somewhat widened towards the tip.

These flies inhabit meadows during the summer; their movements are slow; they are remarkable on account of the great length and slenderness of the abdomen.

1. **cylindricus,** Dg. i. vi. 99. 10 (1752); Mg.; Mq.; Zll.; Ztt.; Lw.—*lividus*? Gfr.—*tipuloides*, Fb.; Ll.; Mg.; Fln.—*fuscus*, Mg.; Mq. Cervinus, capite subtus albo-piloso, epistomate aurato, thorace fusco-trivittato, alis subcinereis, abdomine fusco-univittato, pedibus fulvis nigro-vittatis, tibiis apice tarsisque nigris. Long. $2\frac{3}{4}$–6; alar. 4–7 lin.

Fawn-colour. Head clothed beneath and behind with whitish hairs. Epistoma gilded, convex, beset with many pale yellow bristles towards the peristoma. Thorax with 3 broad brown stripes, beset with 2 or 3 black and yellow bristles. Wings very slightly tinged with grey, rather more than half the length of the abdomen; veins black, tawny towards the base. Halteres tawny, with pale brown knobs. Abdomen striped with brown along the back, about four times the length of the thorax. Legs tawny, more or less striped with black, beset with a few yellow bristles; tips of the tibiæ black; tarsi black, tawny at the base.

Generally distributed. (E.)

Family VI. LEPTIDÆ.

Leptidæ, Wtw. clf. (1840). *Leptides*, Mg.; Ll. f. n.; Mq.; Ags.; Ztt. *Rhagionides*, Ll. gen. *Tabanii* p., Lm. *Stratiomydæ* p., Rfn. *Aplocera* p., Dmr. *Leptidoides*, Brm. *Leptites*, Nwm. *Anthracides* p., Fln. *Rhagionidæ*, Lch.; Ct. *Leptinæ*, Rdn.

Proboscis et palpi porrecti. Ocelli 3. Antennæ 4-articulatæ, porrectæ, basi approximatæ, setiformes. Abdomen segmentis 7.

Ocelli 3. Proboscis and palpi projecting. Antennæ 4-jointed, porrect, approximate at the base; fourth joint setiform. Alulæ small. Halteres uncovered.

The genera of this family may be thus divided:—

- 4th joint of the antennæ
  - long: 3rd joint
    - conical or round: Anal areolet
      - open . . 1. Leptis.
      - closed . . 2. Chrysopila.
    - transverse . . . . . 3. Atherix.
  - short: 3rd joint
    - short . . . . . 4. Ptiolina.
    - long . . . . . 5. Spania.

Genus I. **LEPTIS.**

LEPTIS, Fb. s. a. (1805); Mg.; Ll.; Fln.; Mq.; Ztt.; Lw.; Gmtl. *Musca* p., L.; Gm.; Shr. *Nemotelus* p., Dg. *Rhagio* p., Fb.; Shr.; Mg. kl.; Pz.; Ll.

Corpus majoris vel mediæ magnitudinis, parum pubescens, elongatum, posterius attenuatum. Color obscurus, ferrugineus, vel cinereus. Oculi ænei aut virescentes, unicolores. *Antennæ articulo tertio conico vel rotundo; quarto longo. Areola analis aperta.* Abdomen plerumque flavescens, subpellucidum, fasciis vel punctis obscuris.

Mas. Oculi conjuncti. Anus obtusus.

Fœm. Oculi remoti. Anus acuminatus.

Body rather narrow, tapering, grey, ferruginous or black, of large or of middle size, rarely small. Head semicircular, somewhat depressed in front; epistoma with 2 deep furrows, which are somewhat curved downward at the base of the antennæ. Eyes generally green; all the facets small. Ocelli 3, on the crown. Proboscis and palpi projecting. Labrum lanceolate, stout, rather short, obliquely truncate at the tip. Lingua slender, very flexible, almost membranous, nearly as long as the labrum. Maxillæ slender, acute, as long as the labrum. Palpi subfusiform, biarticulate, very large, decumbent, curved, much longer than the maxillæ. Labium very thick, short, cylindrical, furrowed above. Antennæ 4-jointed, small, porrect, approximate, seated in the middle of the face; first and second joints bristly; first short, cylindrical; second cyathiform; *third transverse*; fourth setiform, pubescent, *much longer than the* 3 *preceding.* Thorax globose, with a scapula on each shoulder, and with a transverse suture, which is interrupted beneath; most often with 3 or 4 darker stripes. Wings lanceolate, moderately large, finely pubescent, diverging; *anal areolet open.* Alulæ small, entire. Halteres uncovered. Abdomen long, obconical or tapering, pubescent, with 7 segments. Legs slender, moderately long; tibiæ armed with 2 spurs; tarsi with 3 onychia.

Male. Eyes contiguous above. Abdomen obtuse.

Fem. Eyes remote. Abdomen attenuated towards the tip; 3 apical segments tubuliform, retractile.

These flies appear in summer, and dwell in meadows, hedges, thickets, and woods, and the larger and most common species may be often seen on the trunks of trees, sitting with their heads downward; they sometimes feed on smaller insects. Their larvæ live in the earth, in sand, in manure, and in decayed wood. The pupa of *L. scolopacea* is brown, cylindrical, bare, with 11 segments, of which the 5 posterior are furnished with a series of little teeth.

1. **scolopacea,** L. fn. 1788 (1761); Dg.; Fb.; Shr.; Gm.; Pz.! fn. xiv. 9; Mg.; Ll.; Fln.; Mq.; Ztt.; Lw.; Gmtl. Cinerea, capite cano, antennis ferrugineis apice nigris, scapulis flavis, scutello apice fulvo, *alis limpidis fusco-quadrimaculatis basi et ad costam subfuscis, apice et margine postico cinereis, abdomine fulvo interrupte nigro-vittato apice nigro,* pedibus fulvis, tarsis nigris; *Mas.* thorace cinereo cano-trivittato; *Fœm.* thorace cervino fusco-trivittato, abdomine subtus plerumque nigro. Long. 5–6; alar. 10–13.

Grey. Head hoary, clothed beneath and behind with white hairs; epistoma convex. Proboscis ferruginous, clothed with tawny hairs. Palpi yellow, curved, clothed with whitish hairs. Antennæ tawny; fourth joint black. Thorax hoary; scapula yellow, extending from the fore border to the base of the wing; tip of the scutellum tawny. *Wings colourless, pale brown at the base and along the fore border, grey at the tips and along the hind border; 4 brown spots on the transverse veins*; stigma dark brown. Halteres tawny. *Abdomen tawny; an interrupted black stripe along the back; tip black.* Legs tawny; tarsi black, dark tawny towards the base. *Male.* First and second joints of the antennæ ferruginous. Thorax grey above, with 3 hoary stripes. *Fem.* Thorax fawn-colour, with 3 pale brown stripes. Abdomen beneath black, tawny towards the base and on the hind borders of the segments.

Generally distributed. (E. S. I.)

2. **tringaria,** L. s. n. ii. 782 (1763); Gm.; Fb.; Shr.; Ll.; Fln.; Mg.; Lm.; Mq.; Ztt.; Gmtl.—*scolopacea* var., Dg. Cinerea, capite cervino, antennis fulvis apice nigris, thorace cervino-trivittato, scutello fulvo, *alis subfulvis,* abdomine maculis nigris trivittato, pedibus fulvis, tarsis nigris; *Mas.* thorace subtus cano, abdominis apice nigro; *Fœm.* thorace subtus cervino abdomine fulvo-fasciato apice cinereo. Long. 4–6½; alar. 10–13 lin.

Grey. Head fawn-colour, clothed beneath and behind with pale yellow hairs. Proboscis tawny. Palpi yellow, curved, clothed with pale yellow hairs. Antennæ tawny; first joint ferruginous; fourth black. Thorax with 3 fawn-coloured stripes. Scutellum tawny, shining, darker towards the base. *Wings pale tawny*; veins black, tawny towards the base and along the fore border. Halteres yellow. *Abdomen with 3 rows of black spots,* clothed with short black hairs. Legs tawny, clothed with very short black hairs; tarsi black, tawny towards the base. *Male.* Thorax hoary beneath. Tip of the abdomen black. *Fem.* Thorax pale fawn-colour beneath. Spots of the abdomen more variable and often less distinct than those of the male; four last segments grey, with tawny hind borders, much attenuated.

Generally distributed. (E. S. I.)

3. **vanellus,** Fb. s. a. 76. 3 (1805); Fln.; Mg.; Ztt. Cinereo-cervina, antennis nigris fulvo-cinctis, thorace flavo-bivittato, scapulis scutelloque

fulvis, *alis subcinereis ad costam fulvis, abdomine fusco fulvo-fasciato,* pedibus fulvis, tarsis fuscis. Long. 4½–5 ; alar. 11–12 lin.

Greyish fawn-colour. Head clothed beneath with pale yellow hairs. Proboscis tawny. Palpi yellow, clothed with long pale yellow hairs. Antennæ black; third joint tawny. Thorax with 2 slender yellow stripes; scapulæ and scutellum tawny; underside hoary. *Wings pale grey, tawny along the fore border.* Halteres tawny. *Abdomen brown; hind borders of the segments tawny.* Legs tawny; tarsi, tips of the hind femora and of the hind tibiæ brown; spines of the hind tibiæ red.

Rare. In Mr. Stephens's collection. (E.)

4. **notata,** Gürtl; Mg. zw. ii. 95. 11 (1820).—*Heyshami,* Ct. ! b. e. xvi. 705. Cinerea, antennis nigris, thorace fusco-quadrivittato subtus cano, *alis subcinereis basi et ad costam fulvis, abdomine nigro lateribus basi fulvis,* pedibus nigris, femoribus anterioribus apice fulvis, tibiis fulvis apice nigris. Long. 4 ; alar. 10 lin.

Grey. Head cinereous, clothed beneath and behind with whitish hairs; epistoma slightly convex. Proboscis black. Antennæ black. Thorax with 4 brown stripes, the inner pair hardly divided; underside and scutellum hoary. *Wings pale grey, tawny at the base and along the fore border*; stigma dark brown; veins black, tawny towards the base. Halteres tawny. *Abdomen black, tawny on each side towards the base.* Legs black; tips of the anterior femora tawny; tibiæ tawny, black towards the tips.

Rare. (E. S.) In the collection of the Entomological Club.

5. **strigosa,** Mg. kl. i. 299. 3 (1804); Mq.; Bc.; Gmtl. Cana, antennis ferrugineis apice nigris, thorace fusco-trivittato, scutello apice fulvo, *alis limpidis basi et ad costam subfulvis, apice et margine postico fuscis,* venis transversis fusco-nebulosis, abdomine fulvo maculis nigris trigonis vittato subtus nigro, pedibus fulvis, tarsis nigris. Long. 4 ; alar. 9 lin.

Hoary. Head clothed beneath and behind with white hairs; crown cinereous; epistoma slightly convex. Proboscis black. Palpi dark tawny, clothed with black hairs. Antennæ ferruginous; third joint tawny; fourth black. Thorax with 3 brown stripes; tip of the scutellum tawny. *Wings colourless, pale brown at the base and along the fore border; brown towards the tips and along the hind border;* stigma dark brown; transverse veins clouded with brown; veins black, tawny at the base. Halteres tawny. Abdomen tawny; a large black triangular spot on each segment; underside black, tawny towards the base.

Not rare. (E.)

6. **lineola,** Fb. e. s. iv. 275. 17 (1792); Fln.; Mg.; Mq.; Rtz.; Ztt.; Rgb.—*albifrons,* Mg. Cinerea, capite subtus albo, antennis nigris, thorace subtus cano, scutello fulvo, *alis limpidis, abdomine*

fulvo maculis trigonis nigris vittato apice nigro, femoribus flavis apice fuscis, tibiis fulvis apice nigris, tarsis nigris. Long. $2\frac{1}{2}$–$3\frac{1}{2}$; alar. 6–8 lin.

Grey. Head white, clothed beneath and behind with white hairs; epistoma convex. Proboscis black. Palpi black, clothed with white hairs. Antennæ black. Thorax hoary beneath; scutellum tawny. Wings colourless; stigma large, dark brown; veins black, tawny towards the base. Halteres tawny. Abdomen tawny, black towards the tip; a large triangular black spot on the back of each segment. Coxæ hoary, femora yellow, with brown tips; tibiæ dark tawny, with black tips; tarsi black.

Generally distributed. (E. S. I.)

7. **inutilis,** Wlk. c. d. b. m. i. 213 (1848). Fulva, thorace fusco vittis tribus pallidis, pectore cano, alis fulvo-subcinereis, ventre piceo bivittato; *Mas.* abdomine maculis piceis vittato. Long. 3; alar. 6 lin.

Tawny. Thorax pale dull brown, with 3 paler stripes; breast hoary. Wings slightly grey, with a tawny tinge along the fore borders; wing-ribs and veins ferruginous; no stigmata. Halteres tawny. Abdomen piceous at the tip and with 2 piceous stripes beneath. Tarsi ferruginous. *Male.* Abdomen with a small piceous spot on each segment. *Fem.* Thorax paler than that of the male.

Rare. In the British Museum. (E.)

Genus II. **CHRYSOPILA.**

CHRYSOPILA, Mq. d. n. (1827); Ztt. d. s. *Musca* p., L.; Fb. sp.; Gf.; Gml.; Shr. in.; Dnv. *Bibio* p., Shr. fn. *Styrex*, Spl. *Rhagio* p., Fb.; Mg. kl.; Ll.; Shr. fn. *Atherix* p., Fb. *Leptis* p., Mg.; Fln.; Ct.; Ztt. i. l.

Corpus mediæ magnitudinis, tenuiter flavo- vel aureo-tomentosum, elongatum, posterius attenuatum. Color niger, cinereus, flavescens. Oculi ænei, unicolores. *Antennæ articulo tertio conico vel rotundo; quarto longo. Areola analis clausa.* Pedes graciles.

Mas. Oculi conjuncti. Anus obtusus.

Fœm. Oculi remoti. Anus acuminatus.

Body slender, of middle or rather small size, black, grey, or tawny, attenuated towards the tip of the abdomen. Head transverse, broad, half elliptical. Epistoma convex. Ocelli 3, seated on a tubercle. Proboscis short. Labrum rather long, hollow, broad, rounded at the tip. Lingua nearly as long as the labrum, but narrower, thickened or reflexed on each side, obtuse at the tip. Maxillæ stylate, slightly curved, nearly as long as the lingua. Palpi exserted, cylindrical, stout,

clavate, bristly, recurved, longer than the maxillæ. Labium short, thick, composed of 2 large oval lobes with a few hairs or quite bare. *Antennæ* inserted near the middle of the face, porrect, approximate, compressed; first joint cyathiform; second transverse, much shorter than the first; *third short, conical*; fourth setiform, long, pubescent, seated on the tip of the third. Thorax ovate-quadrate; scutellum semiorbicular. Wings ample, diverging; *anal areolet closed.* Alulæ small. Halteres long. Legs long and slender, especially the hind pair; tibiæ longer than the femora, with 2 distinct spurs at the tips of the middle pair, and with 2 minute spurs on the hind pair.

Male. Eyes large, contiguous, composed above of large facets. Abdomen rather short and slender.

Fem. Eyes smaller, remote; all the facets small. Abdomen stout, obconical, with a tubuliform tip.

Moist meadows, marshes, and the leaves of shrubs are the habitation of these insects.

1. **holosericea,** Spl. e. c. 998 (1763).—*aurata,* Fb.; Mg.; Mq. —*atrata,* Fb. (*mas*); Gml. (*mas*); Ll.; Fln.; Ztt.;—*tomentosa,* Fb. (*fœm.*)—*cingulata,* Dnv.! 465. fig. Antennis nigris, *alis subfuscis,* pedibus fulvis. *Mas. Atra,* aureo-pilosa, pectore cinereo, *femoribus nigris. Fœm. Cinerea, thorace fusco-trivittato, femoribus fuscis.* Long. 3–5; alar. 6–8 lin.

Proboscis, palpi, and antennæ black; palpi clothed with black hairs. *Wings slightly tinged with brown*; veins black, pale brown towards the base; stigma dark brown. Legs tawny, clothed with very short dark tawny hairs. *Male. Deep black,* thinly clothed with gilded hairs. Thorax dark grey beneath. Halteres black. Tarsi towards the tips and *femora black. Fem. Cinereous,* thickly clothed with hairs. Thorax with 3 brown stripes, the middle one very slender. Wings often paler than those of the male. Halteres tawny, with black knobs. *Femora brown,* clothed with gilded hairs; tips of the tarsi brown.

Generally distributed. (E. S. I.)

2. **aurea,** Mg. kl. i. 302. 9 (1803).—*diadema,* Fb.; Mg.; Mq.; Ztt.; Ct.! b. e. 713.—*longipes,* Gf.—*tipuliformis,* Shr. *Cinerea,* aureo-pilosa, *capite cano* subtus albo-piloso, antennis nigris, pectore cano, *alis limpidis,* pedibus fulvis; *Fœm. abdomine fulvo-bivittato, apice fulvo-trifasciato.* Long. 2–3; alar. 4–6 lin.

Cinereous, clothed with gilded hairs. *Head hoary,* clothed beneath and behind with white hairs. Proboscis yellow. Palpi dark tawny with brown tips, clothed with white hairs. Antennæ black. Thorax hoary beneath. *Wings colourless*; veins black, yellow towards the base. Halteres yellow. Legs tawny; tarsi brown towards the tips. *Male.* Stigma brown. Halteres with brown knobs. *Fem.* Stigma pale brown or tawny. Knobs of the halteres pale brown. *Abdomen*

with a tawny stripe along each side; 3 last segments attenuated, *with tawny hind borders.*

Generally distributed. (E.)

Genus III. **ATHERIX.**

ATHERIX, Mg. kl. (1804); Fb.; Ll.; Mq. *Musca* p., Gm.; Fb. sp.; Mq. *Rhagio* p., Fb.; Mg. *Leptis* p., Fb. *Anthrax* p., Fb.; Mg. kl.

Corpus mediæ magnitudinis, subpubescens, elongatum, postice attenuatum. Color obscurus. Oculi rufo-fusci vel virides, parum æneo-micantes, unicolores. *Antennæ articulo tertio transverso; quarto longo.*

Mas. Oculi conjuncti.

Fœm. Oculi remoti.

Body of middle size, downy, nearly obconical. Head transverse, semicircular, somewhat depressed in front. Epistoma not prominent. Eyes large, green. Ocelli 3, on the crown. Proboscis porrect, not so long as the head. Labrum small, robust, flat, pointed, as long as the labium. Lingua slender, subulate, very acute, nearly as long as the labrum. Maxillæ small, rather broad, attenuated, acute, somewhat shorter than the labium, seated beneath the labrum. Palpi much longer than the maxillæ, biarticulate, porrect, hairy, curved downward, subcylindrical; first joint short; second more than twice the length of the first. Labium thick, submembranaceous, hairy, longer than the palpi, tumid beneath, channelled above. Antennæ porrect, approximate, much shorter than the head; first joint cylindrical; second cyathiform; third *transverse*, flat, oval, larger than the second; *fourth long*, setiform, bare, seated on the third near the tip. Thorax a little broader than the head, with a scapula on each shoulder, and with a transverse suture on the back; hind angles slightly tuberculated. Wings diverging, finely pubescent. Alulæ entire. Halteres uncovered. Abdomen hairy, with 7 segments. Legs rather long; tibiæ armed with slender spurs.

Male. Eyes almost contiguous; facets above a little larger than those in front. Abdomen almost obconical. Hind legs robust.

Fem. Eyes more remote; all the facets small. Abdomen broader and more flat.

These flies inhabit fields and woods, and are slow in their movements.

1. **Ibis,** Fb. e. s. iv. 556 (1792); Mg.; Ct.! b. e. i. 26; Mq.; Gr.; Lw.; Gmtl.—*maculata*, Mg. kl.; Ll.—*Titanus*, Fb. (*fœm.*); Mg. kl. Cinerea, thorace fusco-trivittato, *alis limpidis fusco confertim maculatis* ad costam obscurioribus, pedibus fulvis; *Mas.* capite subtus cano, antennis nigris, abdomine fulvo maculis nigris trivittato basi nigro apice nigro-bifasciato, femoribus anticis basi nigris; *Fœm.* capite

fulvo, antennis ferrugineis, abdomine cinereo maculis trigonis nigris univittato apice fulvo, femoribus anticis fusco-vittatis. Long. $3\frac{1}{2}$–5; alar. 8–11 lin.

Cinereous. Epistoma slightly convex. Proboscis black, with a cinereous covering, clothed with short black hairs. Palpi black, clothed with long black hairs. Thorax with 3 brown stripes, thinly clothed with tawny hairs. *Wings colourless, with many large irregular brown spots, which are darker and more confluent towords the fore border*; veins black. Halteres tawny, with brown knobs. Legs tawny, clothed with short black hairs. Femora clothed with tawny hairs; tarsi black towards the tips. *Male.* Head clothed with black hairs, hoary and clothed with whitish hairs beneath. Antennæ black, cinereous at the base. Abdomen tawny, clothed with tawny hairs, black at the base; 3 rows of black spots along the back; spots in the middle row large, triangular; 2 black bands near the tip; underside with 3 black spots and 2 black blands. Anterior femora black towards the base. *Fem.* Head pale yellow, clothed with pale yellow hairs beneath. Antennæ ferruginous, cinereous at the base. Abdomen cinereous; a transverse black spot on the fore border of every segment whose hind border is tawny. Fore femora striped with brown towards the base.

Generally distributed. (E. S.)

The female of this fly is gregarious, and attaches its eggs in large clusters to boughs hanging over streams, and there remains, and shortly dies. The cluster is generally pear-shaped, and sometimes contains many thousands of dead flies, and continually receives accessions by new comers settling upon it. When the larva is hatched it falls into the water, its future residence; it has a forked tail about one-third of the length of the body, and has the power of raising itself in the water by an incessant undulating motion in a vertical plane.

2. **marginata,** Fb. s. i. ii. 413. 6 (1781); Gml.; Mg.; Mq.; Zw.; Ztt.; Gmtl. Cinerea, antennis nigris, *alis fuscis ad costam obscurioribus disco maculatis*, abdominis segmentis cano-fasciatis, pedibus nigris. Long. 4; alar. 8 lin.

Grey, clothed with black hairs. Epistoma slightly convex. Proboscis and palpi black, the latter clothed with long black hairs. Antennæ black. *Wings dark brown along two-thirds of the fore border, pale brown at the tips and along the hind border; some almost colourless spots in the disc*; veins black. Halteres tawny, with black knobs. Hind borders of the abdominal segments hoary. Legs black, clothed with very short black hairs.

Rare. (E.)

3. **crassicornis,** Hms.; Pz.! fn. cv. 10; Ll.; Mg.; Mq.; Ztt. —*griseola*, Fln. Cinerea, subtus cana, antennis ferrugineis apice nigris,

thorace bivittato, *alis limpidis basi et ad costam fulvis*, pedibus nigris, genubus fulvis. Long. 3; alar. 7 lin.

Cinereous. Head hoary in front and beneath, clothed with pale yellow hairs. Epistoma flat, broad. Proboscis black, clothed with a few tawny hairs. Palpi cinereous, thickly clothed with tawny hairs. Antennæ ferruginous, black towards the tips. Thorax with 2 darker stripes; underside hoary. *Wings colourless, tawny at the base and along the fore border*; stigma pale brown; veins black, tawny towards the base. Halteres tawny, with darker knobs. Legs black; knees tawny.

Rare. (S.)

Genus IV. **PTIOLINA.**

PTIOLINA, Stæger; Ztt. d. s. i. 226 (1842). *Leptis* p., Fln.; Ztt. *Atherix* p., Mg.

Corpus minoris magnitudinis, subpubescens, oblongum, postice parum attenuatum. Color niger, cinerascens. Oculi fusci, parum æneo-micantes. *Antennæ articulo quarto brevi.* Alæ abdomine paullo longiores.

Mas. Oculi conjuncti.

Fœm. Oculi remoti.

Body of small size, slightly pubescent, oblong, cinereous or black; hinder part not much attenuated. Eyes slightly metallic; facets of moderate size. Ocelli seated on a tubercle. *Fourth joint of the antennæ* short. Wings a little longer than the abdomen.

Male. Eyes contiguous.

Fem. Eyes remote.

These flies inhabit fields and woods during the summer, and often rest on leaves and trunks of trees; their movements are slow.

1. **melæna,** Hms.; Mg. ii. 109. 6 (1820). *Alis fuscis. Mas. Atra,* thorace subvittato subtus cinereo, abdomine subtus fusco. *Fœm.* Cinerea, capite ferrugineo, *thorace nigro-bivittato,* pedibus fuscis. Long. 1½; alar. 4 lin.

Wings brown. Male. Deep black, thinly clothed with short black hairs. Thorax grey beneath. Stigma dark brown; veins black. Halteres large, dark brown. Abdomen beneath brown. *Fem.* Dark cinereous. Head ferruginous. *Thorax with 2 indistinct black stripes.* Halteres dark tawny, with brown knobs. Legs brown.

Rare. (E. S.)

2. **immaculata,** Fb. s. a. 74. 10 (1805); Mg. *Cinerea,* capite cano, *alis subcinereis,* pedibus nigris, tibiis basi fulvis, tibiis anticis pallidioribus; *Mas. thorace subvittato; Fœm.* subtus cana, *thorace fusco-trivittato.* Long. 1½–2; alar. 3–4 lin.

Grey. Head hoary and clothed with white hairs beneath. Proboscis and palpi black. Palpi clothed with whitish hairs. Antennæ black. *Wings very pale grey*; stigma pale brown; veins black, tawny at the base. Abdomen clothed with short black hairs. Legs black; tibiæ dark tawny towards the base; fore tibiæ paler. *Male. Thorax indistinctly striped.* Halteres yellow. *Fem.* Paler than the male. *Thorax with* 3 *brown stripes,* hoary beneath. Halteres tawny.

Common in Darenth wood, Kent. (E.)

Genus V. **SPANIA.**

SPANIA, Mg. zw. vi. 335 (1830); Hal.; Mq.

Corpus parvum, nigrum. Proboscis exserta. Palpi longi, lineares. Antennæ stylatæ; *articulus tertius longus; quartus indistinctus vel obsoletus.* Halteres longissimi, clavati.

Mas. Oculi contigui. Antennæ articulo tertio stylato.

Fœm. Oculi remoti. Antennæ articulo tertio lineari, basi crasso.

Body small, black, rather dull. Proboscis prominent. Palpi exserted, long, linear. *Antennæ* stylate, longer than the head; first joint short; second very short; *third long; fourth indistinct or obsolete.* Halteres clavate, very long. Abdomen tapering from the base to the tip. Legs rather short.

Male. Eyes contiguous. Third joint of the antennæ stylate.

Fem. Eyes remote. Third joint of the antennæ linear, thick at the base.

1. **nigra,** Mg.! zw. vi. 335. 1. pl. 66. f. 12 (1830); Mq.—*Fallenii* (*fœm.*), Hal. e. m. i. 162. Atra, subtus cinerea, alis nigricantibus, abdomine *nigro-fusco, pedibus piceis.* Long. 2; alar. 5 lin.

Male. Black, grey beneath, clothed with short black hairs. Wings blackish. Halteres, abdomen, and legs piceous.

Rare; frequents woods. "In moist places of open groves, hovering about and alighting on leaves of evergreens. North of Ireland and Wicklow."—*Haliday, MSS.* (E. I.)

FAMILY VII. BOMBYLIDÆ.

BOMBYLIARII p. et *Tabanii* p., Lm. *Bombyliarii, Anthracii,* et *Mydasii* (quoad *Thereva*), Ll. gen. *Tanystoma* p., Ll. r. a. *Anthracina* p., Rfn. *Sclerostoma* p. et *Aplocera* p., Dmr. *Bombyliarii* et *Anthracides,* Fln.; Ztt. *Bombylidæ, Anthracidæ,* et *Mydasydæ* (quoad *The-*

reva), Lch. *Bombyliarii* et *Xylotomæ*, Mg.; Mq. d. e.; Ags.; Lw. *Bombylica*, Brm. *Bombyliites*, *Anthracites*, et *Therevites*, Nwm. *Bombylidæ*, *Anthracidæ*, et *Therevidæ*, Ct.; Wtw. *Bombyliarii*, *Anthracii*, et *Xylotomæ*, Mq. d. *Bombylinæ*, *Anthracinæ*, et *Therevinæ*, Rdn.

Caput rotundatum aut subtransversum. Frons et vertex non impressa. Antennæ 4-articulatæ; articulus quartus apicalis. Alæ divaricatæ. Pedes tenues.

Body hairy, rather narrow, of moderate breadth, or broad. Head subtransverse or rounded. Crown and front not impressed. Ocelli 3. Antennæ 3- or 4-jointed; fourth joint apical, very short. Wings half-deflexed. Halteres uncovered. Abdomen with 7 segments. Legs slender. The genera may be thus divided:—

- Wings
  - of moderate length . . . . . 1. THEREVA.
  - long: Proboscis
    - short: Antennæ at the base
      - remote . . . 2. ANTHRAX.
      - approximate . 3. LOMATIA.
    - long: First joint of the antennæ
      - long . . 4. BOMBYLIUS.
      - short . . 5. PHTHIRIA.

Genus I. **THEREVA.**

THEREVA, Ll. g. c. iv. (1809); Mg.; Mq.; Ztt.; Lw. *Musca* p., L.; Gm. *Nemotelus* p., Dg. *Tabanus* p.? Gf. *Bibio* p., Fb.; Mg. kl.; Fln.; Pz. *Mydas* p., Lm.

Corpus majoris vel mediæ magnitudinis, cylindrico-conicum, sat angustum, villosum. Color cinerascens, obscurus, pictura abdominis fasciata. *Caput subtransversum.* Oculi nudi, virescentes, unicolores. Ocelli 3. *Proboscis occulta.* Antennæ porrectæ, 5-articulatæ, basi approximatæ. *Alæ mediocres, semideflexæ. Abdomen obconicum.*

Mas. Oculi contigui.

Fœm. Oculi remoti.

Body cylindric-conical, of moderate or rather large size, clothed with brown, tawny, or white hairs. Eyes green. Ocelli 3, on the crown. Proboscis withdrawn into the peristoma when at rest. Labrum small, flat, as long as the labium. Lingua small, acute, channelled above. Maxillæ small, acute, somewhat shorter than the labrum. Palpi cylindrical, one-jointed, hairy on the outside, with a knob at the tip, somewhat longer than the labrum. Labium tumid beneath, channelled above. Antennæ 5-jointed, porrect, as long as the head,

closely approximate at the base, diverging towards the tips; first and second joints bristly; first cylindrical, moderately long; second cyathiform, very short; third conical, bare, somewhat longer than the first; fourth and fifth extremely small. Thorax oval, hairy, with bristles intermixed, generally with 3 darker stripes; no transverse suture; scutellum semicircular. Wings lanceolate, of moderate length, half-deflexed, very finely pubescent; longitudinal veins almost straight. Alulæ entire, very small. Halteres uncovered. Abdomen obconical, finely pubescent. Legs bristly, rather slender; tips of the tibiæ armed with spines.

Male. Head almost semicircular. Eyes contiguous.

Fem. Head spheroidal. Eyes more or less parted.

The *Therevæ* often settle on the ground in sandy spots, and inhabit the leaves of shrubs, the trunks of trees, and flowers; and sometimes prey on other insects. They are not rare, but never very numerous; their flight is sudden, short, and very swift; the males also sometimes dance together in the air. The larvæ are vermiform, with twenty segments, and live in the earth. The pupæ are bare, pale, nearly cylindrical, with many segments, hardly furnished with bristles, armed in front with 2 subulate little horns, and have been found under stones in sandy plains. The sexes differ in the colour of the pubescence.

1. **bipunctata,** Mg. zw. ii. 121. 9 (1820); Ztt.; Lw. *Mas. Nigricans, flavido-cinereo-tomentosa, abdominis segmentis secundo et sequentibus flavo-marginatis obscure flavido-cinereo-fasciatis,* fasciis latis non bene determinatis, alis hyalinis stigmate fusco. *Fœm. Cinerascens,* frontis maculis duabus nigris nitidis, *thoracis vittis tribus dorsalibus fusco-cinereis, abdominis segmentis cinereo-fasciatis,* apicem versus pilis pallidis minutis. Long. 4–4½; alar. 7–8 lin.

Black. *Body with a tawny covering,* thickly clothed with tawny hairs. Head with a few black hairs behind the eyes and on the crown. First and second joints of the antennæ clothed with tawny hairs, beset with black bristles. Thorax hoary beneath. Wings pale grey, tinged with brown at the base, and beneath the fore border, and along the borders of the veins; veins black, tawny towards the base and along the hind border. Halteres tawny. Abdomen cinereous beneath. Legs beset with black bristles; femora clothed with tawny hairs; tibiæ tawny, with black tips; first and second joints of the hind tarsi tawny, with black tips; third joint of the hind tarsi and first joint of the anterior tarsi tawny at the base. *Male.* Epistoma with a few black hairs on each side. Halteres with black knobs. *Abdomen gilded on the hind borders of the segments;* a few black hairs at the tip. *Fem.* Head clothed with yellow hairs, whitish beneath; 2 black shining united spots on the crown. *Thorax with two pale tawny stripes.* Wings a little

paler than those of the male. Knobs of the halteres brown towards the base. *Abdomen gilded above, thinly clothed with tawny hairs; fore borders of the segments black*; tip black, shining, armed with short tawny spines.

Not rare. (E.)

2. **fulva,** Mg. kl. i. 215. 5 (1804); Mq.; Lw. Mas. *Fulvo-tomentosa, abdomine immaculato, pilis nigris ante incisuras nullis.* Fœm. *Breviter fulvo-tomentosa, abdomine immaculato, segmentis septimo et octavo atris nitidis.* Long. 5½; alar. 10 lin.

Fem. Body clothed with bright tawny hairs. Head tawny, beset with a few black bristles behind and above the antennæ, having in front of the crown a shining black band whose fore border is notched. Mouth ferruginous. Antennæ grey; first and second joints beset with black bristles. Thorax dark fawn-colour; scutellum paler. Wings pale grey, slightly tinged with pale brown along the borders of the veins, and with tawny along the fore border. Halteres tawny. *Abdomen tawny; hind borders of the third and following segments black*, shining; underside grey, ferruginous and shining at the tip; hind borders of the segments yellow. Legs tawny, beset with black bristles; femora grey, clothed with tawny hairs; tips of the tibiæ and of the tarsi black.

Rare. In Mr. Stephens's collection. (E.)

3. **cincta,** Mg. zw. ii. 117. 2 (1820). *Nigra, alis subcinereis, abdomine maculis trigonis cervinis bivittato,* tibiis fulvis, tarsis basi fulvis; *Mas. abdominis segmentorum marginibus posticis auratis; Fœm. thorace cervino cinereo-trivittato,* scutello cinereo-maculato, *abdominis segmentorum marginibus posticis fulvis.* Long. 4–6; alar. 7–11 lin.

Black, clothed with tawny hairs. Head whitish, clothed with yellow hairs; hind part, crown, and sides of the epistoma clothed with black hairs. First and second joints of the antennæ clothed with black hairs. Sides and hind part of the thorax beset with some black bristles. *Wings pale grey*; veins black, tawny at the base and along the fore border. Halteres tawny, with black knobs. Abdomen with a fawn-coloured spot on each side of every segment. Legs black, beset with black bristles; femora clothed with tawny hairs; tibiæ tawny, with black tips; first and second joints of the tarsi tawny at the base; onychia tawny. *Male.* Hind borders of the abdominal segments gilded. *Fem.* Two black shining united spots on the crown. Thorax fawn-colour, with 3 grey stripes; a grey spot on the scutellum. Hind borders of the abdominal segments fawn-colour.

Not rare. (E.)

4. **funebris,** Mg. zw. ii. 121. 8 (1820).—*lugubris,* Mg. kl. *Nigra, flavo-hirta, alis limpidis, pedibus fulvis, femoribus fuscis.* Long. 3½; alar. 6 lin.

Male. Black, clothed with long yellow hairs. Head clothed with

black hairs above the antennæ, and with pale yellow hairs below. *Wings colourless*; veins black, tawny towards the base. Halteres tawny, with black knobs. *Legs tawny*, beset with black bristles; *femora*, fore tarsi, hinder tarsi towards the tips, and tips of hind tarsi *brown*.

Rare. In Mr. Stephens's collection.

5. **plebeia,** L. fn. 1779 (1761); Fb.; Ll.; Mg.; Ztt.—*fasciata*, Dg.; Mg. kl.—*strigata*, Fb.—*rustica*, Fln. *Nigra, antennis articulo tertio basi ferrugineo, alis subcinereis basi et ad costam fulvis, abdominis segmentorum marginibus posticis auratis, pedibus fulvis, femoribus nigris.* Long. 4½; alar. 8 lin.

Black, thickly clothed with tawny hairs. Head clothed beneath with yellow hairs, on the crown and on each side of the epistoma with black hairs. Proboscis ferruginous. First and second joints of the antennæ clothed with tawny hairs, beset with black bristles; *third joint ferruginous at the base. Wings very pale grey, tawny at the base and along the fore border.* Halteres tawny; knobs ferruginous, with a black ring at the base. *Hind borders of the abdominal segments gilded. Legs tawny*, beset with black bristles; *femora black*, clothed with pale tawny hairs; tips of the tarsi black.

Not rare. (E. S. I.)

6. **annulata,** Fb. s. a. 68. 11 (1805); Fln.; Mg.; Mq.; Ztt.; Lw.—*anilis*, Fb. s. i.; Shr.; Mg. kl.; Ll. *Mas. Undique niveo-tomentosus. Fœm. Albicans*, fronte antice nivea postice fusca, alis albidis, abdomine nigro-annulato. Long. 4; alar. 8 lin.

Body hoary. Head silvery white; a few black bristles behind the eyes. Proboscis and antennæ black; first and second joints of the antennæ clothed with white hairs and with a few black bristles. *Wings* whitish; veins black, tawny towards the base and along the fore border. Halteres tawny. Legs black, beset with black bristles; femora hoary, clothed with white hairs; tibiæ tawny. *Male. Body thickly clothed with white hairs.* Knobs of the halteres yellow, with a black ring at the base. Metatarsus tawny, with a black tip; second joint tawny towards the base. *Fem.* Crown cinereous. *Thorax clothed with cinereous hairs.* Knobs of the halteres tawny. *Abdomen clothed with hoary hairs.* Metatarsus tawny at the base.

Not rare. It has much resemblance to *T. anilis*, L., which is distinguished from it and from the preceding species by the open fourth posterior areolet. (E. S. I.)

Genus II. **ANTHRAX.**

ANTHRAX, Mg. zw. ii. 141 (1820); Ll.; Wdm.; Fln.; Ztt. *Musca* p., L.; Gm.; Hbst. *Asilus* p., L. *Nemotelus* p., Dg. *Bibio* p.,

Fb.; Shr. *Anthrax* p., Fb.; Pz.; Mg. kl. *Anthrax* et *Exoprosopa*, Mq.

Caput magnum, obtuse ovatum, subdepressum, hirsutum. Color niger, hirsutie nigra vel flava. *Alæ longæ. Proboscis brevis. Antennæ basi remotæ.*

Mas. Oculi approximati. Anus obtusus.

Fœm. Oculi magis remoti. Anus acutior.

Body large or of middle size, of moderate breadth, black, sometimes partly red, clothed with various-coloured hairs and down. Head globose, somewhat contracted behind; epistoma bearded. Eyes reniform, green. Ocelli 3, on the crown. *Proboscis either quite withdrawn into the peristoma, or porrect inclined upward and as long as the head.* Labrum small, acute, channelled beneath, as long as the labium. Lingua setiform, stiff, acute, somewhat shorter than the labrum. Maxillæ setiform, stiff, acute, somewhat shorter than the lingua. Palpi short, cylindrical, hairy. Labium cylindrical, channelled above. *Antennæ* 4- *or* 5-*jointed*, short, porrect, *remote at the base*; first joint cylindrical; second cyathiform; third variously formed; fourth very small; fifth very small when present. *Wings long*, lanceolate, very finely pubescent, expanded when at rest, generally adorned with spots, stripes, or bands; longitudinal veins much curved. Alulæ small. Halteres uncovered, but often hidden by the hairs of the abdomen. Abdomen elliptical or cylindrical, rather long, with 7 segments, slightly convex or almost flat. Legs long, slender; hind legs the longest. Onychia small, wanting in some species.

Male. Eyes almost contiguous. Abdomen obtuse at the tip.

Fem. Eyes a little more remote. Abdomen less obtuse.

These flies are among the most beautiful of the *Diptera*; they are mostly inhabitants of warm climates, appear only in summer, fly very swiftly in the hot sunshine, and feed on the nectar of flowers. They inhabit open parts of woods, pastures, fields, paths, dry spots, and often bask in the sunshine with expanded wings. Some of their larvæ live in the earth; others are parasitic in Lepidopterous larvæ. The species may be thus grouped:—

a. Third joint of the antennæ tapering gradually from the base to the tip. Species 1, 2.

a a. Third joint of the antennæ very slender, thick at the base. Species 3, 4.

1. **lacchus,** Fb. s. a. 123. 21 (1805); Mg.; Mq.; Gmtl.—*Pandora*, Fb.; Mg.; Ct.—*Megæra*, Hms.; Mg.—*italica*, Rsi.; Mg.—*picta*, Wdm.; Mg. Nigra, ferrugineo-hirta, *alis nigricantibus maculatis ferrugineo-variis apice margineque postico limpidis*, abdominis lateribus argenteo-maculatis. Long. $4\frac{1}{2}$–$5\frac{1}{2}$; alar. 11–13 lin.

Black. Body clothed with ferruginous hairs. *Wings blackish, with*

some pale spots, which are most ferruginous at the base, colourless along the hind borders and at the tips; the outline of the black hue is very irregular, and it extends twice nearly to the hind border: hind borders of the abdominal segments adorned on each side with patches of silvery down.

Very rare. In the British Museum. (E.)

2. **fenestrata,** Fln. d. s. anthr. 8. 4 (1814); Mg.; Mq.; Ztt.; Zll.; Gmtl.—*morio*, L.—*maura*, Hbst.; Mg.; Lm.—*ornata*, Ct.! b. e. i. 9. 4. Nigra, capite supra nigro-piloso subtus fulvo-piloso, antennis basi fulvis, thorace fulvo-piloso ad alas albo-fasciculato, scutello rufo, *alis nigro-fuscis fulvo et limpido maculatis apice et margine postico limpidis*, abdomine nigro-piloso albo-bifasciato et apice fasciculato basi utrinque et subtus rufo, pedibus fulvis. Long. 4½; alar. 11 lin.

Black. Head clothed above with black hairs, beneath with tawny hairs; sides of the epistoma and of the peristoma tawny; epistoma very prominent. First and second joints of the antennæ clothed with short black hairs. Thorax clothed with tawny hairs; a large tuft of white hairs at the base of each wing; scutellum red. *Wings dark brown for three-fourths of the length, colourless towards the tips and along the hind border; 5 or 6 colourless and 2 pale tawny spots in the brown part*; veins black, partly ferruginous. Halteres tawny. Abdomen clothed with black hairs; 2 interrupted bands of short white hairs on the back, and a tuft at the tip; sides towards the base and underside red. Legs tawny, covered with yellow scales, beset with short black bristles; tips of the tarsi black.

Rare; appears in the south and south-west of England during August and September. (E.)

3. **hottentotta,** L. fn. 1787 (1761); Shr.; Fb.; Fln.; Ll.; Lm.; Ct.—*circumdata*, Hms.; Mg.; Mq.; Ztt.; Gmtl.—*cingulata*, Ahr.! f. e. iii. f. 19. Nigra, fulvo-pilosa, *alis limpidis basi et ad costam fuscis*, abdominis apice nigro-trifasciculato; *Mas.* alis basi argenteo-squamosis, abdominis apice albo-unifasciculato; *Fœm.* abdominis apice flavo-unifasciculato. Long. 5–6; alar. 11–13 lin.

Black, thickly clothed with tawny hairs. Head clothed with some black hairs on the crown and on the epistoma. First and second joints of the antennæ clothed with black hairs. *Wings colourless, pale brown at the base and along three-fourths of the fore border*; the latter is black, and near the base is tufted with black bristles. Three tufts of black hairs on the tip of the abdomen. *Male.* A cluster of silvery scales on the base of each wing. A tuft of white hairs on each side of the middle black tuft at the tip of the abdomen. *Fem.* Abdomen with 2 two tufts of yellow hairs at the tip.

Rare. (E. I.)

4. **cingulata,** Mg. zw. ii. 145. 3 (1820); Mq.; Ct.; Zll.; Ztt.

Nigra, fulvo-pilosa, *alis subcinereis, basi et ad costam nigro-fuscis*, abdominis apice nigro-trifasciculato flavo-albo-unifasciculato. Long. 4½–5; alar. 10–12 lin.

Black, smaller and narrower than *A. hottentotta*, clothed with tawny hairs; crown of the head clothed with black hairs. *Wings pale grey, dark brown at the base and along four-fifths of the fore border*; the latter is black and near the base is tufted with black bristles. The tawny hairs of the abdomen are less thick than those of *A. hottentotta*, and hide the bands of shorter pale hairs; 3 tufts of black hairs at the tip, and a tuft of yellowish-white hairs on each side of the middle black tuft.

Rare. (E.)

Genus III. **LOMATIA.**

LOMATIA, Mg. zw. vi. 324 (1830); Ct.; Mq.; Zll.; Ztt. *Bibio* p., Fb. *Musca* p., Gm. *Anthrax* p., Fb.; Mg.; Pz. *Stygia*, Mg.

Corpus mediæ magnitudinis, oblongum, sublineare, parum pubescens.

Color niger, pictura abdominis flavo-fasciata. *Proboscis brevis. Antennæ basi approximatæ. Alæ longæ.*

Mas. Oculi connexi.

Fœm. Oculi discreti.

Black, narrow, linear, almost cylindrical, of middle size. Head globose, somewhat contracted behind. Eyes reniform. Ocelli 3, on the crown. *Proboscis nearly as long as the head.* Labrum curved, acute, channelled beneath, somewhat contracted in front, shorter than the labium. Lingua stiff, setiform, longer than the labrum. Maxillæ stiff, setiform, shorter than the labrum. Palpi short, almost cylindrical. Labium slender, cylindrical, channelled above. *Antennæ* 3-jointed, short, porrect, *closely approximate at the base*, diverging upwards; first joint short, thick, bristly, dilated above, obliquely truncate; second cyathiform, shorter than the first; third long, conical, bare, finely pointed at the tip. Thorax oval, without a transverse suture. *Wings long*, narrow, lanceolate, very finely pubescent, expanded in repose; longitudinal veins curved. Alulæ very small, with fringed borders. Halteres uncovered. Abdomen long-elliptical, slightly convex, with 7 segments, which have yellow bands. Legs slender; hind legs long; onychia 2.

The habits of these flies appear to be similar to those of the *Anthraces*; they frequent dry and sandy spots.

1. **Belzebul,** Fb. e. s. iv. 260. 14 (1792); Mg.; Mq.; Ct.; Lw.; Gmtl. Nigra, alis subcinereis *costæ bistriente fusca, abdominis segmentis interrupte fulvo-fasciatis.* Long. 5½–6; alar. 13–14 lin.

Black. Head clothed above with black hairs. Thorax clothed with ferruginous hairs; a tuft of white hairs behind the base of each wing.

Wings pale grey; *a brown stripe along the fore border extending from the base to full two-thirds of the length, where it occupies half the breadth of the wing*; veins black, mostly ferruginous towards the base. Halteres ferruginous, with yellow tips. Abdomen clothed with pale yellow hairs; *a tawny interrupted band on the hind border of each segment. Male.* Sides of the thorax and of the abdomen clothed with black hairs. *Fem.* Face clothed with white hairs. A tuft of tawny hairs on each side of the base of the abdomen.

Very rare; has been found near Bristol? (E.)

2. **lateralis,** Mg. zw. ii. 140. 3 (1820); Ct.; Mq.; Zll.; Ztt.; Gmtl.—*Belzebul,* Pz. Nigra, alis subcinereis, *costæ plus bistriente fusca, abdomine basi luteo-bimaculato, segmentis vix interrupte fulvo-fasciatis.* Long. 3½; alar. 9 lin.

Black. Head clothed above with black, in front with pale yellow hairs. Thorax clothed with tawny hairs; a tuft of white hairs on each side in front and another behind the base of each wing. Wings pale grey; *a brown stripe extending and widening from the base along the fore border of the wing*; veins black, ferruginous towards the base. Halteres tawny. *Abdomen thinly clothed with black hairs; a luteous spot on each side of the second segment, and on the hind border of each segment a half-interrupted band. Male. Stripe of the wings less than three-fourths of the length and than half of the breadth.* Spots on the abdomen small; hind borders of the segments yellow. *Fem. Stripes of the wings more than three-fourths of the length and than half of the breadth.* Spots on the abdomen large; hind borders of the segments luteous.

Very rare in Britain; has been found near Bristol? In the British Museum.

Genus IV. **BOMBYLIUS.**

BOMBYLIUS, L. fn. (1761); Dg.; Fb.; Shr.; Gm.; Ll.; Mk.; Mg.; Mq.; Ztt.; Ct.

Corpus majoris aut mediæ magnitudinis, breviter ovatum, tomento denso tectum. Color corporis niger. Oculi ænei, unicolores. *Proboscis longa. Antennarum articulus primus longus. Alæ longæ.* Pedes longi, graciles.

Mas. Oculi connexi.

Fœm. Oculi contigui.

Body broad, thick, compact, clothed with long woolly hairs. Head rounded; front flat, narrow, projecting; epistoma bearded, prominent; peristoma very large. Eyes elliptical, dark green or æneous; all the facets very small. Ocelli 3, on the crown. *Proboscis long,* porrect, slender, horizontal. Labrum very long, lanceolate, acute, channelled

beneath, shorter than the labium. Lingua attenuated, broadest at the base, channelled above, very slender and acute at the tip, longer than the labrum. Maxillæ entire on both sides, setiform, stiff, acute, curved at the base, shorter than the labrum. Palpi short, cylindrical, curved, clavate, clothed beneath with long hairs. Labium cylindrical, linear, rather stout, channelled above, somewhat thickened at the base, as long as the lingua, terminating in 2 long narrow recurved lobes, which are united at the base by a horny plate; the latter has 2 points and a slender process in the centre. *Antennæ* 6-jointed, slender, porrect, approximate at the base, diverging, almost as long as the head; first and second joints clothed with long hairs; *first joint long*, stout, cylindrical; second short, cyathiform; third bare, compressed, subulate, more than twice the length of the first; fourth very short; fifth longer; sixth nearly oval, much shorter than the fifth. Thorax large, subglobose; scutellum transverse. *Wings* lanceolate, *long*, very finely pubescent, expanded when at rest. Alulæ small, entire. Halteres uncovered, but concealed by the hairs of the body. Abdomen short, elliptical or cylindrical, with 7 segments; the last very small, compressed. Legs long, very slender, beset with minute bristles; first, second, and third joints of the anterior tarsi armed beneath with spines; onychia long, slender.

Male. Eyes generally connected.

Fem. Eyes parted.

These flies are generally distributed, and appear during the spring and the summer in gardens and woods, or on sandy heaths and plains; their flight is rapid, flitting, and humming, and they suck the nectar of flowers while hovering on the wing. The larvæ are supposed to live on the roots of plants.

1. **major,** Lin. s. n. ii. 1009. 1 (1763); Fb.; Ll.; Fln.; Dnv.; Mg.; Kby.; Mq.; Ct.! b. e. 613. 1; Zll.; Ztt.; Gmtl.—*variegatus*, Dg.—*sinuatus*, Mk.—*vicinus*, Mq. Niger, pilis fulvis dense hirtus, capite et thorace subtus albo-pilosis, thorace utrinque pilis albis vittato, *alis limpidis costa usque ad discum sinuatim fuscis*, abdomine subtus pilis albis nigrisque fasciato, pedibus fulvis. Long. 4½–5; alar. 12–13 lin.

Body black, most thickly clothed with hairs. Head clothed with tawny hairs, on each side of the epistoma with a few black hairs, and beneath with white hairs. Proboscis nearly as long as the body. Palpi clothed with a few long black hairs, as are also the first and second joints of the antennæ. Thorax clothed above with tawny hairs, beneath with white hairs. *Wings colourless; a dark brown stripe occupies the base, extends beneath the fore borders nearly to the tip, and forms 3 curves along the disc.* Halteres brown. Abdomen clothed with tawny hairs, among which are a few black hairs; underside clothed

with bands of alternate black and white hairs. Legs tawny, beset with a few bristles; tarsi black towards the tips.

Generally distributed; appears in the spring. (E. S. I.)

2. **medius,** Lin. s. n. ii. 1009. 2 (1763); Dg.; Fb.; Shr.; Dnv.; Ll.; Mg.; Fln.; Mq.; Ztt.—*discolor*, Mk.; Mg.; Mq.—*concolor*, Mk.; Ll.; Mg.; Mq.; Zll. Niger, pilis flavis dense hirtus, thorace subtus fulvo-piloso, *alis subcinereis basi et ad costam flavo-fuscis fusco-*14-*maculatis*, abdomine fulvo-piloso basi flavo-piloso subtus nigro-piloso, dimidio dorsali apicali vittatim argenteo-piloso, pedibus fulvis. Long. 5–6; alar. 12–14 lin.

Body black, most thickly clothed with hairs. Head clothed with yellow hairs, and on each side of the epistoma with a few black hairs. Proboscis nearly as long as the body. Palpi clothed with a few black hairs, as are also the first and second joints of the antennæ. Thorax clothed above with yellow hairs, and beneath with tawny hairs. *Wings slightly tinged with grey, yellowish-brown at the base, and along the fore border, beneath which are* 14 *brown spots.* Halteres brown. Abdomen clothed with tawny hairs, at the base with yellow hairs, at the tip and beneath with black hairs, and along half the length to the tip with a stripe of short silvery hairs. Legs tawny; tips of the tarsi blackish.

Generally distributed; appears in the spring. (E.)

3. **ctenopterus,** Mk.! m. b. 45. 8. pl. 3. f. 8; Mg.—*minor*? Mg. Niger, pilis flavis vel fulvis dense hirtus, *alis limpidis vel subcinereis basi ad discum plus minusve fuscis*, pedibus fulvis, tarsis nigris. Long. $2\frac{1}{2}$–$3\frac{1}{2}$; alar. 7–9 lin.

Black, very thickly clothed with yellow or tawny hairs; some black hairs on the crown and on each side of the epistoma. *Proboscis much shorter than the body.* Palpi clothed with a few long tawny hairs. First and second joints of the antennæ clothed with a few long black hairs. *Wings colourless or pale grey, brown at the base, and from one-third to two-thirds of the length beneath the fore border.* Halteres tawny. Abdomen with a few black hairs towards the tip. Legs tawny, beset with short black bristles; tarsi black; onychia yellow.

Rare. (E. S. I.) The darker variety of this species seems to correspond with the *B. venosus* of Mikau or the *B. minor* of Meigen.

4. **minor,** L. s. n. ii. 1009. 4 (1763); Fb.; Fln.; Ztt. Niger, pilis flavis dense hirtus, palpis fulvis, *alis subcinereis basi et bistriente antica basali fuscis*, pedibus fulvis, tarsi nigris. Long. 3; alar. 8 lin.

Black, very thickly clothed with yellow hairs. *Proboscis shorter than the body.* Palpi tawny. First and second joints of the antennæ clothed with a few long tawny hairs. *Wings pale grey, brown at the base and along two-thirds of the fore border.* Halteres yellowish-white. Legs tawny, beset with short black bristles; tarsi black.

Rare. (E. S.)

Genus V. **PHTHIRIA.**

PHTHIRIA, Mg. kl. (1804); Ll.; Mq.; Ct.; Zll.; Ztt. *Volucella* p., Fb.; Fln. *Bombylius* p., Ol.; Mk.

Corpus parvum, oblongum, pubescens. Color obscurus, cinereus. *Proboscis longa. Antennæ articulo primo brevi. Alæ longæ.*
Mas. Oculi connexi.
Fœm. Oculi remoti.

Body short, hairy. Head circular. Ocelli 3, on the crown very minute. *Proboscis long*, porrect, slender, horizontal. Labrum stout, slightly incurved, acute, channelled beneath, as stout as the labrum and longer. Lingua acute, channelled above, as long as the labrum; its margin membranous except at the tip. Maxillæ slender, a little thicker towards the tips, acute, rather shorter than the labrum. Palpi short, slender, clavate, pubescent. Labium semicylindrical, terminated by 2 oval articulated lobes. *Antennæ* 5-jointed, porrect, closely approximate at the base, diverging upwards, somewhat shorter than the head; *first and second joints short*, of equal length, beset with a few bristles; first cylindrical, almost cyathiform; second transverse; third large, fusiform, compressed, truncated, twice the length of the first and the second; fourth and fifth extremely small. Thorax oval, convex; scutellum rather large, transverse, semiovate. *Wings long*, diverging, rather large, much longer than the abdomen, very finely pubescent. Alulæ small, entire. Halteres uncovered. Abdomen with 7 segments. Legs long, slender; femora short; hind femora the longest; tarsi much longer than the tibiæ; ungues and onychia very distinct.

Male. Head as broad as the thorax, very hairy in front. Eyes contiguous. Abdomen obconical, obtuse.

Fem. Head a little narrower, more depressed. Eyes remote. Abdomen stout, elliptical, flat.

These flies much resemble the *Bombylii* in structure and habit; they inhabit sandy situations, and feed on the nectar of flowers.

1. **gibbosa,** Ol. enc. iv. 329 (1789).—*pulicaria*, Mk.; Mg.; Ct.! b. e. 521; Zll.; Ztt.—*nigra*, Mg. kl.—*pygmæa*, Fb.; Ll.—*campestris*, Fln.; Ll. Nigra, capite albido, alis limpidis, halteribus flavis; *Mas.* pilis albidis erectis hirta, halteribus nigro-maculatis, abdomine obconico; *Fœm.* pilis cinereis incumbentibus hirta, halteribus immaculatis, abdomine lato ovato. Long. 1–1½; alar. 2½–3½ lin.

Black, with a cinereous covering. Head whitish, and clothed with white hairs beneath. Proboscis more than half the length of the body. Wings colourless. Halteres yellow. *Male.* Body clothed with whitish erect hairs. Epistoma very prominent, clothed with black hairs. Halteres with a large black spot on the knob. Abdomen tapering from the base to the tip, narrower and a little longer than the thorax. *Fem.*

Body clothed with cinereous incumbent hairs. Epistoma slightly prominent, with very few black hairs. Abdomen oval, as broad as the thorax.

Rare. (E. I.)

Family VIII. SCENOPINIDÆ.

Scenopinidæ, Ct.; Wtw. *Muscides* p., Lm.; Ll. *Muscidia* p., Rfn. *Scenopinii*, Fln.; Mg.; Mq.; Ztt.; Ags.; Lw. *Scenopinæ*, Rdn.

Epistoma brevissimum, latum, excavatum. Oculi rotundati. Ocelli 3 in vertice. Proboscis nuda, retracta. Palpi subcylindrici vel subclavati. Antennæ triarticulatæ; articulus tertius longus. Alæ venis validis; venæ longitudinales 2 in marginem interiorem alæ fere descendentes, 2 in ipso alæ apice conjunctæ; vena interior marginalis nulla.

Epistoma very short, broad, excavated. Eyes round. Ocelli 3, on the crown. Proboscis bare, withdrawn. Palpi subcylindrical, subclavate. Antennæ 3-jointed; third joint long. Wings with robust veins; 4 longitudinal veins almost reaching the interior border, 2 of them uniting at the tip of the wing; no interior marginal vein.

Genus I. **SCENOPINUS.**

Scenopinus, Ll. d. h. n. xxiv. (1803); Fb.; Mg.; Fln.; Mq.; Ct.; Ztt. *Musca* p., L.; Spl. *Nemotelus* p., Dg. *Atrichia*, Shr.

Corpus parvum, elongato-lineare, subopacum, glabriusculum. Epistoma minime prominens. Oculi nudi, linea media transversa purpurea sæpe notati. Proboscis occulta. Antennæ subdeflexæ, capite paullo breviores; articulus tertius elongatus, subcylindricus, truncatus. Alæ incumbentes. Areola discoidalis subretracta, basalis. Halteres nudi. Abdomen depressum, segmentis 8. Pedes validi, nudi, mutici.

Body black, small, long, linear, smooth, rather dull. Head large, semicircular, somewhat compressed in front. Peristoma small, round, at a moderate distance beneath the base of the antennæ. Proboscis withdrawn, small, widened at the base. Labrum small, short, broad, hollow, not more than half the length of the palpi. Lingua pointed, very short, hardly one-third of the length of the labrum. Palpi large, clavate, as long as the labium, pubescent, with a few bristles on the inside. Labium short, broad, cylindrical, hollow above. Antennæ 3-jointed, small, inserted near the middle of the face, porrect, slightly deflexed, approximate at the base; first and second joints small, some-

what bristly; first cyathiform; second transverse; third long, pointed, nearly cylindrical, slightly compressed, thickest at the base, obliquely truncated at the tip. Thorax oblong, pubescent, somewhat matted; scutellum small, transverse, semioval. Wings lanceolate, finely pubescent, parallel. Halteres uncovered, with large knobs. Abdomen with 8 segments, long, linear, marginated; first segment very short; second the longest, with 2 oval hairy spots on the back; third and following short, transversely wrinkled. Legs short, simple, unarmed.

Male. Eyes with blackish-blue bands; facets in the upper part larger than those below.

These flies are very sluggish; they are found during the summer on the leaves of plants, on walls, and on windows, especially of stables. The two British species may be divided into two sections:—

a. Eyes of the male contiguous. Legs red. Hind tibiæ simple in both sexes. Species 1.

a a. Eyes remote in both sexes. Legs black. Hind tibiæ of the male dilated. Species 2.

1. **fenestralis,** L. fn. 1845 (1761); Dg.; Fb.; Ll.; Fln.; Mg.! iv. pl. 36. f. 17; Mq.; Ct.; Ztt.—*spoliata*, Shr.—*sulcicollis*, Mgrle.; Mg.; Ct.—*vitripennis*, Mg.; Mq.; Ct.—*senilis*, Fb.; Mg.; Mq.; Ct.—*domesticus*, Mg.; Mq.; Ct. Niger, antennis piceis, alis subcinereis, halteribus pedibusque fulvis; *Mas*. thorace sulcato. Long. 2–2½; alar. 3½–4½ lin.

Black. Antennæ piceous. Wings slightly grey. Halteres and legs tawny. *Male*. Thorax furrowed.

Generally distributed. (E. I.)

2. **fasciatus,** Spl. e. c. (1763.)—*niger*, Dg.; Mg.; Mq.; Ct.; Ztt.—*rugosus*, Fb.; Mg.; Mq.; Ct.! b. e. 609. 7.—*tarsatus*, Pz.—*ater*, Fln.—*nigripes*, Mgle.; Mg.; Ct. Niger, alis nigricantibus, tarsis ferrugineis. Long. 2–2¾; alar. 3½–5.

Black. Wings blackish. Tarsi ferruginous.

Generally distributed. (E. I.)

Family IX. EMPIDÆ.

Empidæ, Leach, Sam. Comp. 1819. *Empides*, Ll., 1804. *Empidii*, Fallen, 1810. *Empidiæ*, Fallen, 1817. *Empides* et *Hybotides*, Mcq. *Empidinæ* et *Hybotinæ*, Rnd. *Empidiæ*, *Tachydromides*, *Hybotidæ*, Ztt. *Empidiæ*, *Tachydromiæ*, *Hybotinæ*, Mg.

Antennæ porrectæ; articulo tertio exannulato; stylo vel arista apicali, biarticulata aut exarticulata, rarius subdorsali aut obsoleta. Epi-

stoma muticum. Proboscis mento recondito. Alæ lobo axillari obsoleto; areola brachiali utraque completa; anali a margine posteriore distante, nonnunquam obsoleta; venis externo-mediis binis aut ternis. Abdomen segmentis septem (aut ultra).

Although this family seems sufficiently defined by the essential characters, it is not easy to give a more extended description that will be applicable generally, so many are the modifications of the secondary characters. They are generally small insects, and rather slender: the head more or less globose, and usually much narrower than the thorax: the vertex not impressed; the front narrow, sometimes entirely occupied by the eyes meeting above the antennæ; the epistoma without moustache or bristles, and without a defined orbit: the cheeks vary. The proboscis is often long, and usually rigid, the pointed horny labrum being the most conspicuous part: the development of the other organs varies; the maxillæ at first being found almost as well developed as in the *Bombylidæ*, and bearing the palpi attached to their base (*Empis*, &c.); but in the greater number of genera the maxillæ become obsolete, and even where small rudiments of them remain, as in *Hybos*, the palpi are detached from them and inserted at the sides of the mentum.* The palpi are usually of one piece, rarely presenting another small joint at the base; their proportions, form, and direction vary.† The antennæ are horizontally extended, and present the ordinary 3 joints, the last being undivided: but the first is sometimes so short and so closely attached to the second, that it may be overlooked, unless the antennæ are removed from the head. At the end of the third joint, which is often elongated, there are usually two much more slender joints forming a style or arista, the first of the two joints being very short. Sometimes this first joint disappears. More rarely the arista is placed a little before and above the tip of the third joint (*Ocydromia*) or disappears entirely (*Euthyneura myricæ*). The thorax is usually compressed, the vertical diameter equalling or exceeding the longitudinal. The transverse suture of the mesonotum before the wings is widely interrupted in the middle, or is merely commenced at each side. The mesosternum is but little inclined out of the vertical plane, and is covered by the fore coxæ. The wings present considerable variation in the veining. In many the cubital vein is forked, as in the series of families pre-

* *Wiedemannia*, and a few allied genera, differ most widely from the first type of structure, and approach that of the *Dolichopidæ*.

† The mentum being short and withdrawn into the oval cavity; the proboscis has no apparent joint at the base.

ceding; but the anal areolet is small and not prolonged towards the posterior margin. Sometimes the costal vein is continued more faintly round the posterior margin, in others it vanishes about the tip of the wing. In the remaining genera of the family the cubital vein is simple, as in the families which follow; and sometimes (as in most of them) there are but two externo-medial veins,—more frequently, however, three. But the most important distinctive character of the wings of the *Empidæ* is to be found in the disappearance of the rounded axillary lobe, a condition which prevails among the *Nemocera*, but which this family has in common with the *Dolichopidæ* and *Lonchopteridæ* only among the *Brachycera*. Some genera of the *Platypezidæ* (*Platycnemia, Opetia*) nearly agree with the *Empidæ* in this, and form the transition. And the same peculiarity re-appears among the *Asilidæ* in one genus (*Leptogaster*), which in other respects, even as to the wings, is abundantly distinguished from the *Empidæ*. Among the *Syrphidæ*, also, this lobe is scarcely apparent in the genera *Ascia, Sphegina*, and *Baccha*; but the two families differ so widely in most respects, that it seems needless to particularize the characters which remove them from a place here. The scutellar alulæ are undeveloped. The legs vary much in form and clothing. The fore coxæ, though inserted at some distance from the intermediate pair, are long enough to pass beyond the base of these, and in some genera (*Hemerodromia, Phyllodromia*), they are as long as the femora. The abdomen, of 7 or 8 segments, is usually compressed in the male, and nearly linear, or subclavate, the appendages of the hypopygium being directed upwards and towards the back. In the female the last segments are generally much attenuated, and the tentacles of the vagina protruded.

As has been observed, the want of the axillary lobe to the wings distinguishes the *Empidæ* from most of the other families of *Brachycera*. From the *Dolichopidæ* they differ in the greater amplitude and completeness of the brachial areolets, and in the number of abdominal segments. The smaller head, with convex vertex, and the slender and often elongated proboscis, destitute of the remarkable cavity at the end, afford subsidiary characters. The unarmed epistoma, rounded tip of the wings, and fewer joints of the aristæ, separate them from the *Lonchopteridæ*.

- Fore Coxæ
  - shorter than the femora: Cubital vein
    - forked: 3rd joint of antennæ
      - longer than the terminal style: Proboscis
        - much longer than the head . . . . . 1. EMPIS.
        - about as long as the head, straight . . . . . 2. HILARA.
        - much shorter than the head, incurved . . . . . 3. RAGAS.
      - shorter than the terminal arista: Costal vein
        - vanishing at the tip of the wing . . . . . 4. BRACHYSTOMA.
        - attenuated around the posterior margin: Cheeks
          - interrupted by a notch under the eyes: Head
            - oblong ovate, inclining forwards 5. ARDOPTERA.
            - oblate spheroidal, vertical . . . 6. HELEODROMIA.
          - prolonged under the eyes . . . 7. WIEDEMANNIA.
    - simple: Externo-medial veins
      - three,
        - arising from a discal areolet:* 3rd joint of antennæ
          - shorter than the terminal arista . . . . . 8. SCIODROMIA.
          - longer than the terminal style: Proboscis
            - longer than the head
              - perpendicular . 9. RHAMPHOMYIA.
              - horizontal . . 10. EUTHYNEURA.
            - shorter than the head: Hind tibiæ
              - curved, shorter than femora 11. ŒDALEA.
              - straight, as long as femora 12. MICROPHORUS.
        - 1st and 2nd forming a fork; no discal areolet . . . . 13. CYRTOMA.
      - two: Discal areolet
        - one: Proboscis
          - very short: 3rd joint of anten.
            - conical, with the arista at the tip 14. LEPTOPEZA.
            - oval, with the arista above the tip 15. OCYDROMIA.
          - longer than the head, horizontal . . . . . 16. HYBOS.
        - none: Subanal vein
          - apparent . . . . . 17. PLATYPALPUS.
          - none: Palpi
            - shorter than proboscis: Præbrachial areolet
              - much shorter than pobrachial: 3rd j. of anten.
                - elongated, conical . 18. ELAPHROPEZA.
                - short ovate, or round 19. DRAPETES.
              - about as long as pobrachial . 20. CHERSODROMIA.
            - as long as proboscis . . . . . 21. TACHYDROMIA.
  - as long as the femora: Cubital vein
    - simple . . . . . 22. PHYLLODROMIA.
    - forked . . . . . 23. HEMERODROMIA.

* The discal areolet is sometimes incomplete between the first and second externo-medial veins: so that these are detached, but the second and third are connected in a fork: the reverse of what happens in *Cyrtoma*.

Genus I. **EMPIS.**

EMPIS, Mq. zw. iii. 15 (1822). *Asilus* p., L. *Empis* p., L.; Dg.; Fb.; Shr.; Fln. *Empis* et *Pachymerina*, Mq.

Corpus majoris, mediæ, aut minoris magnitudinis, oblongum, sæpe pilosum, parum nitidum. Color niger, raro testaceus. Caput rotundum. *Proboscis* tenuis, *capite multo longior*. Antennæ 5-articulatæ, porrectæ, capitis longitudine; *articulus tertius* conicus, compressus, *quinto longior*; quartus brevissimus; quintus setiformis. Thorax ovatus. Alæ longæ, obtusæ; *vena* tertia *cubitalis furcata*; areola discoidalis venas 3 in marginem interiorem emittens. Pedes plerumque simplices, non incrassati; posteriores elongati; *coxæ femoribus breviores*.

Mas. Oculi contigui. Abdomen cylindricum; anus obtusus, sæpe filatim appendiculatus aut vesiculosus. Pedes quam in fœmina plerumque longiores.

Fœm. Oculi remoti. Proboscis quam in mare sæpe longior. Abdomen oblongum, apice acuminatum. Femora posteriora interdum pennata.

Body of large, middle, or small size, oblong, often hairy, seldom shining, black, rarely testaceous. Head round, small, somewhat contracted behind. Ocelli 3. *Proboscis much longer than the head*, slender, perpendicular or inclined downward, most often applied to the breast. Labrum arched, as long as the labium, or rather shorter. Lingua slender, as long as the labrum. Maxillæ bristly, shorter than the labrum. Palpi clavate, short, recurved, hairy. Labium almost cylindrical. Antennæ 5-jointed, porrect, approximate at the base, as long as the head; first and second joints bristly; first cylindrical; second cyathiform, about half the length of the first; third subulate, compressed, *longer than the fifth*; fourth very short; fifth stylate. Thorax oval. Wings rather long, obtuse, very finely pubescent, incumbent, parallel; *cubital vein forked*, costal vein vanishing about the tip of the wing; discoidal areolet emitting 3 veins to the interior border. Halteres uncovered. Abdomen with 7 segments, with rows of punctures along the sides, sometimes four on each segment. Legs slender, of various structure; *coxæ shorter than the femora*.

Male. Eyes contiguous. Abdomen cylindrical, obtuse, and often with long curved filaments at the tip, which is sometimes tumid. Legs generally longer than those of the female.

Fem. Eyes parted by a narrow front. Proboscis often longer than that of the male. Abdomen oblong, acuminated at the tip, with an articulated oviduct. Hind femora sometimes feathered.

These insects inhabit woods, hedges, fields, moors, and other localities, where they find their prey, which chiefly consists of small *Diptera*; they also feed on the lesser *Ephemeridæ*, and the

female of the larger species is always preying on some little insect during the pairing. The species may be thus grouped :—

a. Hind femora slender.
b. Body black or grey.
c. Legs not fringed nor clavate. Body generally large. Species 1–6.
c c. Legs fringed or clavate. Body small. Species 7–19.
b b. Body pale. Species 20–24.
a a. Hind femora thick. Species 25.

1. **tessellata,** Fb. e. s. iv. 405. 10 (1792); Fln.; Ll.; Mg.; Mq.; Ztt.; Ct.—*livida,* Fb. *Cinerea,* antennis nigris, *thorace nigro-trivittato,* alis cinereis basi et ad costam ferrugineis, *abdomine tessellato,* pedibus ferrugineis. Long. 4½–5; alar. 11–12 lin.

Grey, thickly clothed with black hairs and bristles. Proboscis black; lancets ferruginous. Antennæ black; first and second joints clothed with long black hairs; third long-conical, much longer than the first and the second; fifth about half the length of the third. *Thorax with* 3 *linear black stripes.* Wings dark grey, ferruginous at the base and along the fore border; veins black, ferruginous towards the base. Halteres bright ferruginous. Abdomen cinereous, tessellated. Legs ferruginous, clothed with long hairs and bristles; tibiæ beset with long stout bristles; tips of the tarsi black.

Generally distributed; appears in the spring. (E. S. I.)

2. **borealis,** L. fn. 1895 (1761); Dg.; Shr.; Fb.; Fln.; Mg.; Ztt.; Mq.; Ct.! b. e. 18. Nigra, thorace cinereo nigro-quadrivittato, *alis latis ferrugineo-fuscis,* pedibus ferrugineis, femoribus tibiisque posterioribus apice tarsis posterioribus pedibusque anticis rufo-fuscis. Long. 3–3½; alar. 7½–9 lin.

Black, hairy. Lancets ferruginous; palpi beset with a few black bristles. First and second joints of the antennæ beset with black hairs; third lanceolate, *much more than twice the length of the first and the second; fifth very short.* Thorax grey, with 4 black stripes. Wings ferruginous-brown; stigma dark brown; veins brown, tawny towards the base. Halteres tawny. Legs ferruginous, clothed with black hairs; coxæ grey; fore legs, except the base of the femora, posterior tarsi, and tips of posterior femora and tibiæ reddish-brown. *Male. Wings broad.* Legs darker than those of the female. *Fem. Wings very broad,* but varying in breadth.

Rare; appears in the spring; has been found in Lancashire and Wicklow. (E. I.)

3. **livida,** Lin. s. n. ii. 1003. 3 (1763); Dg.; Shr.; Ll.; Fln.; Mg.; Mq.; Ztt.; Ct.—*lineata,* Fb. Cinerea, antennis nigris, thorace nigro-trivittato, halteribus pedibusque fulvis, tarsis nigris; *Mas.* alis

ferrugineo-cinereis, *abdomine ferrugineo; Fœm. alis limpidis, abdomine fusco.* Long. 3½; alar. 9 lin.

Cinereous, thinly clothed with black hairs and bristles. Lancets pale yellow. Antennæ black. Thorax with 3 black stripes. Stigma dark brown, very slender; veins black, tawny at the base. Halteres tawny. Legs tawny, clothed with short black hairs and bristles; tarsi black, dark tawny at the base. *Male.* Facets of the eyes rather larger than those of the female. Proboscis black, much longer than that of the female, tawny towards the base. Wings ferruginous, grey. *Abdomen ferruginous. Fem.* Proboscis ferruginous, black at the base. *Wings colourless. Abdomen brown.*

Generally distributed. (E. S. I.)

4. **opaca,** Fb. s. a. 138. 7 (1805); Mg.; Mq.; Ct.—*rufipes,* Fb. Cinerea, antennis nigris, *thorace nigro-quadrivittato,* alis subferrugineis, halteribus fulvis, *abdomine nigro,* pedibus rufis, femoribus tibiisque apice tarsisque nigris. Long. 3–3½; alar. 8–8½ lin.

Cinereous, thinly clothed with black hairs and bristles. Proboscis black; lancets ferruginous; palpi yellow, beset with a few black bristles. Antennæ black; first and second joints clothed with black hairs; third lanceolate, as long as the first and the second. *Thorax with 4 black stripes.* Wings slightly ferruginous; no stigma; veins brown, tawny towards the base. Halteres tawny. *Abdomen black* and shining above. Legs pale red, thinly clothed with black hairs and bristles; coxæ, tarsi, and tips of the femora and of the tibiæ black.

Generally distributed. (E. I.) The larva and the pupa live in the earth, and the latter is armed with spines.

5. **unicolor?** Brullé, exp. m. 639 (1832); Mq. d. i. 327. 1 (1834). *Nigra, thorace cinereo-subtrivittato, alis subcinereis ad costam subfulvis, halteribus fulvis.* Long. 3–4; alar. 6–8 lin.

Black, shining. Thorax with 3 indistinct grey stripes. Wings very pale grey, with a slight tawny tinge along the fore border; veins brown, tawny towards the base. Halteres tawny. *Male.* Clothed with black hairs. *Fem.* Clothed with pale hairs.

Very rare. In the collections of the Entomological Club and of Mr. Saunders. (E.)

6. **lucida,** Ztt. i. l. 561. 3 (1840). *Nigra, alis subfuscis,* halteribus luteis. Long. 2–2½; alar. 5–6 lin.

Black, slightly shining, thickly clothed with black hairs and bristles. Third joint of the antennæ lanceolate, very much longer than the first and the second; fifth not more than one-fourth of the length of the third. *Wings pale brown;* stigma black, very narrow; veins black, tawny towards the base. Halteres luteous. Metatarsi very slightly dilated.

Generally distributed, especially abundant on moors and mountains of the north. (E. S.)

7. **brunnipennis,** Mg. zw. iii. 32. 30. (1822); Ct. *Nigra, alis fuscis,* halteribus fulvis, pedibus non clavatis vix ciliatis. Long. $1\frac{1}{2}$–2; alar. $3\frac{1}{2}$–$4\frac{1}{2}$ lin.

Black, slightly shining, very slightly tinged with grey, thinly clothed with black hairs and bristles. First and second joints of the antennæ clothed with short black hairs; third longer than the first and second; fourth much more than half the length of the third. *Wings brown*; stigma dark brown; veins black. Halteres tawny. *Male. Hind legs slightly ciliated, not clavate. Fem. Hind legs hardly ciliated.*

Not rare. (E.)

8. **Bistortæ,** Mg. zw. iii. 29. 22 (1822); Mq.; Ct. *Cinerea,* antennis nigris, *thorace fusco-quinquevittato, alis limpidis,* halteribus flavis, pedibus *nigro-fuscis,* tarsis nigris. Long. 2; alar. $4\frac{1}{2}$ lin.

Grey, thinly clothed with black hairs. Lancets dark ferruginous. Palpi pale yellow. Antennæ black; first and second joints clothed with short black hairs; third much longer than the first and second; fifth more than half the length of the third. *Thorax with* 5 *brown stripes. Wings colourless*; no stigma; veins black, yellow towards the base. Halteres pale yellow. *Legs dark brown*; tarsi black. *Male.* Hind tibiæ slightly clavate. Hind metatarsi slightly dilated.

Generally distributed. (E. S.)

9. **chioptera,** Fln. d. s. emp. 21. 11 (1815); Mg.; Mq.; Ztt.; Ct.—*crassipes,* Shr. *Cinerea,* antennis halteribus pedibusque nigris; *Mas. alis lacteis; Fœm. alis cinereis.* Long. $1\frac{1}{4}$–$1\frac{1}{2}$; alar. 3–$3\frac{1}{2}$ lin.

Grey, clothed with white hairs and a few black bristles. Proboscis and lancets black. Antennæ black; first and second joints thinly clothed with short black hairs; third conical, longer than the first and second; fourth and fifth like a short spine, not more than one-fourth of the length of the third. Halteres black. Legs black, thinly clothed with whitish hairs. *Male. Wings milk-white*; fore border black along nearly half the length to the tip; veins pale yellow. Fore metatarsi and hind metatarsi dilated, fusiform. *Fem. Wings grey*; veins black, tawny towards the base. Hinder femora compressed, fringed.

Generally distributed; appears in the spring. (E. S. I.)

10. **decora,** Mg. zw. iii. 22. 9. pl. 22. f. 8 (1822); Mq.; Ct. *Cinerea,* antennis nigris, *alis limpidis, venis basi flavis, abdomine pedibusque nigris.* Long. $2\frac{1}{2}$–3; alar. 6 lin.

Grey, clothed with white hairs. Proboscis black, much more than half the length of the body. Antennæ black. Wings colourless; veins bright yellow towards the base. Halteres yellow. Abdomen and legs black, shining. *Male.* Tip of the abdomen clothed beneath with tawny hairs. *Fem.* Legs fringed with black hairs.

Rare. In Mr. Stephens's collection. (E.)

11. **pennipes,** L. s. n. ii. 1003. 2 (1763); Fb.; Pz.! fn. lxxiv.

18; Ll.; Mg.; Mq.; Ztt.; Ct.—*pennata*, Shr.—*ciliata*, Mg. kl.; Fln. —*longirostris*, Mg. kl. *Nigro-cinerea*, antennis nigris, *thorace nigro-quadrivittato*, *alis nigro-fuscis*, halteribus fulvis, *abdomine* pedibusque *nigris*. Long. $1\frac{1}{2}$–$1\frac{3}{4}$; alar. $4\frac{1}{2}$–5 lin.

Greyish-black, clothed with black hairs and bristles. Proboscis, lancets, and palpi dark brown. Antennæ black; first and second joints clothed with short black hairs; third longer than the first and second; fifth like a spine, nearly half the length of the third. *Thorax with* 4 *black stripes*; outer pair indistinct. *Wings dark brown*; stigma blackish; veins black. Halteres tawny. *Abdomen black*, shining. Legs black, thickly clothed with short black hairs. *Fem.* Tibiæ and posterior femora fringed with long black hairs.

Generally distributed. (E. S. I.)

12. **pennaria,** Fln. d. s. emp. 20. 9 (1815); Mg.; Mq.; Ztt.; Ct. *Cinerea*, antennis nigris, *alis sublimpidis*, halteribus flavis, *pedibus nigro-fuscis*. Long. 2; alar. 4 lin.

Cinereous, clothed with black hairs. Proboscis black; lancets pale yellow. Antennæ black; first and second joints clothed with short black hairs; third conical, much longer than the first and the second; fifth stylate, hardly half the length of the third. *Wings almost colourless*; no stigma; veins black, tawny at the base. Halteres pale yellow. *Legs dark brown*, clothed with black hairs. *Male.* Hind tibiæ slightly clavate; hind metatarsi slightly dilated. *Fem.* Posterior femora and hind tibiæ fringed.

Generally distributed. (E. S. I.)

13. **vernalis,** Mg. zw. iii. 27. 19 (1822); Ztt.; Ct. *Cinerea*, antennis nigris, halteribus flavis, *pedibus fulvis*, tarsis fuscis; *Mas. alis albo-hyalinis*, pedibus posticis subincrassatis; *Fœm. alis subcinereis*, femoribus posterioribus tibiisque posticis ciliatis. Long. $1\frac{1}{2}$; alar. 3 lin.

Grey, thinly clothed with black hairs. Proboscis black; lancets tawny. Antennæ black; third joint longer than the first and the second; fifth much more than half the length of the third. Halteres yellow. *Legs dark tawny*, clothed with short black hairs; tarsi brown. *Male. Wings white.* Hind legs slightly incrassated. *Fem. Wings slightly grey*; veins black, tawny towards the base. Posterior femora and hind tibiæ ciliated.

Generally distributed. (E.)

14. **lepidopus,** Mg. zw. iii. 23. 12 (1822); Ct. *Nigro-cinerea*, antennis nigris, *alis nigro-fuscis*, halteribus fulvis, *pedibus nigris*. Long. $1\frac{3}{4}$; alar. $3\frac{1}{2}$ lin.

Greyish-black, thinly clothed with black hairs. Proboscis black; lancets tawny. Antennæ black; first and second joints clothed with short black hairs; third longer than the first and the second; fifth more than half the length of the third. *Wings dark brown*; stigma

blackish; veins black. Halteres tawny. *Legs black*, clothed with short black hairs; posterior femora and tibiæ deeply ciliated.

Generally distributed. (E.)

15. **albinervis,** Mg. zw. iii. 26. 16 (1822). *Cana*, antennis nigris, *alis albis, abdomine nigro nitido, pedibus piceis.* Long. $1\frac{3}{4}$; alar. $3\frac{1}{2}$ lin.

Hoary. Proboscis black, near half the length of the body. Antennæ black. *Wings white*; veins yellowish-white. Halteres yellow. *Abdomen black, shining.* Legs pitchy. *Male.* Fore metatarsus slightly dilated.

Rare. In Mr. Stephens's collection. (E.)

16. **leucoptera,** Mg. zw. iii. 27. 18 (1822); Ct. *Cinerea*, antennis nigris, halteribus fulvis, *pedibus nigris; Mas. alis albidis; Fœm. alis subfuscis.* Long. $1\frac{1}{2}$–$1\frac{3}{4}$; alar. 3–$3\frac{1}{2}$ lin.

Dark grey, thinly clothed with black hairs. Proboscis black. Antennæ black; third joint a little longer than the first and the second; fifth nearly as long as the third. No stigma; veins black, yellow towards the base. Halteres tawny. *Legs black. Male. Wings whitish.* Hind tibiæ very slightly clavate; hind metatarsi very slightly dilated. *Fem. Wings slightly tinged with brown.* Legs hardly ciliated.

Generally distributed. (E. S.)

17. **vitripennis?** Mg. zw. iii. 25. 15 (1822); Mq.; Ct. *Cinerea*, antennis nigris, *alis subfuscis, pedibus fulvis, tibiis apice tarsisque nigris.* Long. $1\frac{1}{4}$–$1\frac{1}{2}$; alar. $3\frac{1}{2}$–4 lin.

Cinereous, thinly clothed with black hairs. Proboscis black; lancets dark ferruginous; palpi pale yellow. Antennæ black; first and second joints clothed with short black hairs; third longer than the first and the second; fifth more than half the length of the third. *Wings pale brown*; no stigma; veins black, tawny towards the base. Halteres tawny. *Legs tawny; tarsi and tips of the tibiæ black. Male.* Hind tibiæ very slightly clavate; hind metatarsi very slightly dilated. *Fem.* Posterior femora and hind tibiæ ciliated.

Generally distributed. (E.)

18. **pilipes,** Mg. zw. iii. 31. 29 (1822); Ct. *Cinerea*, antennis nigris, *thorace fusco-quinquevittato, alis limpidis*, halteribus luteis, *pedibus fulvis*; *Mas.* abdomine fulvo aut fusco. Long. 2–$2\frac{1}{4}$; alar. 5–$5\frac{1}{2}$ lin.

Light grey, thinly clothed with black hairs. Proboscis dark tawny, with a black tip; lancets tawny. Antennæ black; first and second joints tawny, clothed with black hairs; third as long as the first and the second; fourth very short. *Thorax with* 5 *brown stripes. Wings colourless*; no stigma; veins black, yellow towards the base. Halteres luteous. *Legs tawny. Male.* Abdomen tawny or dark brown. *Fem.* Abdomen black.

Generally distributed. (E. S. I.)

19. **nigritarsis,** Mg. zw. iii. 32. 31 (1822); Mq.; Ct. *Nigra, alis limpidis,* halteribus flavo-albis, *abdominis basi utrinque albo-piloso, pedibus fulvis* albo-hirtis, *coxis posterioribus genubus posticis tarsis et tibiis apice nigris.* Long. 2; alar. 4 lin.

Black, shining. Head and thorax thinly clothed with hairs, grey beneath. Lancets ferruginous. First and second joints of the antennæ clothed with a few short hairs; third lanceolate, much more than twice the length of the first and of the second; fifth about one-fourth of the length of the third. *Wings colourless*; stigma brown; veins black, tawny towards the base. Halteres yellowish-white. *Abdomen clothed with long whitish hairs on each side towards the base. Legs tawny,* thinly clothed with long whitish hairs, which are most prevalent on the tibiæ; *posterior coxæ, hind knees, tarsi, and tips of the tibiæ black*; hind tarsi towards the base and tips of the hind tibiæ dilated, especially in the male.

Not rare. (E.)

20. **stercorea,** L. fn. 1899 (1761); Shr.; Fb.; Ll.; Fln.; Mg.; Ct. Lutea, capite cinereo, antennis nigris, *thorace nigro-univittato, alis limpidis,* halteribus flavis, *abdomine nigro-trivittato,* pedibus flavis, tarsis ferrugineis. Long. $3\frac{1}{2}$; alar. 9 lin.

Luteous, shining, clothed with a few black hairs and bristles. Head cinereous. Proboscis luteous, black towards the tip. Antennæ black; first and second joints clothed with black hairs; first long, linear; second very short; third tapering much longer than the first; fifth about half the length of the third. *Thorax with a black linear stripe. Wings colourless*; stigma pale brown, very narrow; veins black, tawny at the base. Halteres yellow. *Abdomen with* 3 *black stripes.* Legs yellow, long, slender; tarsi ferruginous.

Generally distributed. (E. S. I.)

21. **ignota,** Mg. zw. vi. 338 (1830); Mq.; Ztt.; Ct.—*punctata,* Fln.; Mg.—*dorsalis*? Ct. Lutea, capite supra cinereo, antennis nigris, *thorace cinereo fusco-trivittato, alis subcinereis,* halteribus flavis, *abdomine nigro-trivittato,* pedibus luteis, tarsis nigris. Long. $2\frac{3}{4}$; alar. 7 lin.

Luteous, clothed with a few black hairs and bristles. Head grey above. Lancets luteous, with black tips. Palpi yellow. Antennæ black; first and second joints clothed with short black hairs. *Disc of the thorax grey, with* 3 *brown stripes. Wings pale grey*; stigma very pale brown, very narrow; veins black, tawny towards the base. Halteres yellow. *Abdomen with* 3 *black stripes*; the middle one much broader than the outer pair. Legs luteous, clothed with very short black hairs; tarsi black.

Generally distributed. (E. S. I.)

22. **trigramma,** Hms.; Mg. zw. iii. 38. 42 (1822); Ztt.—*punctata* var. γ, Fln. Lutea, antennis nigris, *thorace cinereo-trivittato fusco-*

univittato, metathoracis disco nigro-cinereo, alis sublimpidis, halteribus flavis, *abdomine nigro-trivittato,* pedibus luteis, tarsis nonnunquam nigris. Long. 2–3; alar. 6–8 lin.

Luteous, clothed with a few black hairs and bristles. Head with a large black spot behind the eyes. Proboscis black, lancets luteous. Antennæ black; first and second joints clothed with short black hairs. *Thorax with 3 greyish-black stripes; the middle one including a brown stripe*; the side pair short. *Disc of the metathorax greyish-black. Wings colourless or very pale grey*; stigma very pale brown, very narrow; veins black, tawny towards the base. Halteres pale yellow. *Abdomen with 3 black stripes*; the middle one much broader than the side pair. Legs luteous; tarsi black, sometimes tawny, with black tips.

Generally distributed. (E.)

23. **testacea,** Fb. s. a. 141. 20 (1804); Ll.; Mg.; Mq.; Ct.—*scutellata*? Ct. Lutea, antennis nigris basi flavis, *thorace nigro-univittato ferrugineoque bivittato, alis limpidis,* halteribus flavis, *abdominis segmentorum marginibus posticis nonnunquam nigris aut nigro-maculatis,* pedibus fulvis. Long. 2; alar. 6 lin.

Luteous, hardly shining, clothed with a few black hairs and bristles. Proboscis black, tawny towards the base. Lancets luteous, with black tips. Palpi yellow. Antennæ black; first and second joints yellow; third yellow towards the base. *Thorax with a slender black stripe, on each side of which there is a slender ferruginous stripe*; a brown spot on each side before the base of the wing. *Wings colourless*; stigma tawny, very indistinct; veins brown, yellow towards the base. Halteres pale yellow. *Fore borders of the abdominal segments sometimes black, or with a black spot on each side.* Legs tawny; tibiæ darker than the femora; tarsi darker than the tibiæ, their tips brown.

Generally distributed. (E. S. I.)

24. **lutea,** Mg. zw. iii. 37. 40 (1822); Ct.—*ochracea*? Ct. *Lutea,* antennis nigris, *alis limpidis,* halteribus flavis, pedibus fulvis, tarsis fuscis. Long. 2–2½; alar. 6–7 lin.

Luteous, shining, clothed with a few black hairs and bristles. Proboscis brown; lancets tawny, with black tips. Antennæ black. *Wings colourless*; no stigma; veins brown, tawny towards the base. Halteres yellow. Legs tawny; tibiæ darker than the femora; tarsi pale brown.

Generally distributed. (E. S.)

25. **femorata,** Fb. s. a. 140. 14 (1804); Ll.; Mg.! iii. pl. 22. f. 20.; Mq.; Ct.—*ruralis,* Mg.—*Scotica,* Ct. Cinerea, antennis nigris, thorace fusco-quinquevittato, halteribus fulvis, pedibus ferrugineis, femoribus nigris crassis; *Mas.* alis subfuscis; *Fœm.* alis limpidis. Long. 3; alar. 6 lin.

Cinereous, clothed with black hairs and bristles. Proboscis black, brown at the tip; lancets ferruginous; palpi black. Antennæ black;

first and second joints clothed with black hairs; third conical, rather broad, much longer than the first and the second; fifth like a spine, less than half the length of the third. Thorax with 5 brown stripes. Stigma small, pale yellowish-brown; veins brown, tawny towards the base. Halteres tawny. Legs ferruginous, clothed with short black hairs; femora black, with ferruginous tips; hind femora thick, beset with black bristles; knees tawny; tips of the tarsi black. *Male.* Wings very slightly tinged with brown. Hind tibiæ and hind tarsi pale yellow. *Fem.* Wings colourless.

Generally distributed. (E. S. I.)

Genus II. **HILARA.**

HILARA, Mg. zw. iii. 1 (1822); Ct.; Mq.; Hal.; Ztt. *Empis* p., Fb.; Fln.; Mg. *Bibio* p., Pz. *Tachydromia* p., Fb.

Corpus parvum aut minutum, raro mediæ magnitudinis, oblongum, subpilosum. Color niger vel cinerascens, rarissime ferrugineus. Oculi in utroque sexu disjuncti. *Proboscis* crassa, *recta, capitis longitudine.* Palpi recurvi. Antennæ 5-articulatæ, porrectæ; articulus tertius subulatus, supra compressus, quinto longior; quartus minimus; quintus setiformis, gracilis, brevis. Alarum *vena costalis furcata*; areola discoidalis venas 3 in marginem interiorem emittens. *Coxæ femoribus breviores.*

Mas. Oculi approximati. Abdomen cylindricum; anus obtusus, crassus, appendiculatus. Metatarsi antici sæpissime incrassati.

Fœm. Oculi magis remoti. Abdomen oblongum, apice acuminatum. Metatarsi antici simplices.

Body small, rarely of middle size, oblong, slightly hairy, black or greyish, very rarely ferruginous. Head small, spheroidal. Eyes parted. Ocelli 3, on the crown. *Proboscis straight,* perpendicular, thick, *about as long as* the head. Labrum semicircular, clavate, cleft at the tip, as long as the labium. Lingua lanceolate, as long as the labium. Maxillæ flat, obtuse, thin along the edges, half the length of the labium. Palpi formed of one fleshy joint, clavate, curved upwards, very pilose beneath, as long as the maxillæ. Labium long, large, very membranous on the upper surface. Antennæ 5-jointed, porrect, approximate at the base; first and second joints bristly; first short, cylindrical, longer than the second; second cyathiform; third subulate, compressed above, more than twice the length of the second, *longer than the fifth*; fourth very minute; fifth setiform, slender. Thorax oval, with humeral scapulæ; scutellum small. Wings ciliated, incumbent, parallel; *cubital vein forked,* costal vein attenuated around the posterior margin of the wing; discoidal areolet emitting 3 veins to the interior border. Halteres uncovered. Abdomen with 7 seg-

ments. Legs slender, almost equal in length. *Coxæ shorter than the femora.*

Male. Eyes more contiguous than those of the female. Abdomen cylindrical, compressed and recurved at the tip. Fore metatarsi most often dilated.

Fem. Eyes more remote. Abdomen oblong, pointed at the tip. Fore metatarsi slender.

The *Hilaræ* feed on smaller insects, chiefly on *Diptera*, and also on the nectar of flowers. They assemble in swarms, and dance together over water during the fine summer evenings; sometimes myriads may be seen near the surface of a river, flying in continual succession and in opposite directions, and appearing like a stream of light. "The myriads of *Hilaræ*, which fill the air over rivulets in summer, form a pretty spectacle. Their evolutions in the air are graceful and regular. At one time they revolve in circles, horizontal or oblique, so that the spectator sees two or more streams crossing each other, and seeming to interlace. At another time, without perceptible cause, the whole multitude sweep away simultaneously in one direction (as if a rush of wind had borne them off), and then return more leisurely to their former station. It is difficult to single out any individual among the multitude, so as to trace its course."—*Haliday, MSS.* The genus may be thus divided:—

a. Fore metatarsus of the male incrassated. Species 1–19.
a a. Fore metatarsus of the male simple. Species 20.

1. **cilipes,** Mg. zw. iii. 3. 1 (1822); Ct.! b. e. 130. *Nigro-cinerea*, antennis nigris, *alis fuscis*, halteribus fuscis basi fulvis, *pedibus nigris*, genubus ferrugineis. Long. 2; alar. 5 lin.

Greyish-black, hairy. Proboscis, palpi, and antennæ black. *Wings brown*; stigma blackish; veins black, tawny at the base. Halteres brown, tawny towards the base. Legs black; knees ferruginous. *Male.* Fore metatarsus and following joint dilated, clothed with long black hairs.

Generally distributed. (E. S. I.)

2. **matrona,** Hal. e. m. i. 158 (1833).—*spinipes*, Ztt. Nigricans, alis fumatis, *halteribus et femoribus luteis; Mas.* metatarso antico dilatato elliptico, margine ciliato. Long. $2\frac{1}{4}$; alar. $5\frac{1}{2}$ lin.

Black. Wings blackish-brown; stigma darker. *Halteres, coxæ, femora, and half of fore tibiæ, as well as the base of the posterior tibiæ, dingy yellow. Male.* Fore metatarsus and following joint dilated, clothed with long black hairs.

Rare. In Mr. Haliday's collection. (I.)

3. **maura,** Fb. s. i. ii. 471. 4 (1781); Fln.; Mg.; Ztt.—*globu-*

lipes, Hms.; Mg. *Cinerea*, antennis nigris, *thorace nigro-trivittato, alis cinereis*, halteribus fuscis basi fulvis, *pedibus nigro-fuscis*. Long. 2; alar. 5 lin.

Grey, hairy. Proboscis, palpi, and antennæ black. *Thorax with* 3 *black stripes*. *Wings grey*; stigma brown; veins black, tawny towards the base. Halteres brown, tawny towards the base. *Legs blackish-brown*; knees tawny. *Male*. Fore metatarsus and following joint dilated.

Generally distributed. (E. I.)

4. **chorica,** Fln. d. s. emp. 24. 18 (1815); Mg.; Ztt. *Nigra, alis fuscis*, halteribus *pedibusque nigro-fuscis*. Long. $1\frac{1}{2}$; alar. $3\frac{1}{2}$ lin.

Black, hairy. *Wings brown*; stigma blackish; veins black. Halteres and *legs blackish-brown*. *Male*. Fore metatarsus dilated, oval.

Generally distributed. (E. S. I.)

5. **clypeata,** Mg. zw. iii. 4. 4 (1822); Mq.; Ztt. *Nigra, pectore cinereo, alis limpidis*. Long. 1; alar. $2\frac{1}{2}$ lin.

Black, hairy. *Thorax tinged beneath with grey*. *Wings colourless*; stigma dark brown; veins black; apical transverse vein almost straight at the base. *Male*. Fore metatarsus dilated, oblong.

Rare. In the collection of the Entomological Club. (E. I.)

6. **nigrina,** Fln. emp. 24. 19 (1815); Mg. zw. pl. 22. f. 5; Mq.; Ztt. *Nigra; Mas. alis nigricantibus; Fœm. alis sublimpidis*. Long. $1\frac{1}{4}$; alar. $2\frac{3}{4}$ lin.

Black, hairy. Stigma dark brown; veins black. *Male*. *Wings blackish*. *Fore metatarsus slightly dilated*. *Fem*. *Wings nearly colourless*. *Hind tibiæ slightly clavate*.

Rare. In the collection of the Entomological Club. (E. I.)

7. **manicata,** Mg. zw. iii. 5. 6 (1822); Mq.; Ztt. *Nigro-fusca cinereo suffusa*, antennis nigris, *alis subcinereis, halteribus fuscis, pedibus ferrugineis*. Long. $1\frac{1}{2}$; alar. $3\frac{1}{2}$ lin.

Blackish-brown, tinged with grey, hairy. Proboscis, palpi, and antennæ black. *Wings slightly grey*; stigma dark brown; veins black. Halteres dark brown. *Legs ferruginous*. *Male*. Fore metatarsus dilated, oval.

Not common. In the collection of the Entomological Club. (E.)

8. **pilosa,** Ztt. d. s. i. 342. 9 (1842).—*interstincta*, Mg.—*senilis?* Pz. fn. liii. 3. *Nigra, thoracis vittis tribus pectoreque cinereis, alis sublimpidis*, halteribus fuscis, genubus ferrugineis. Long. $1\frac{1}{2}$; alar. 3 lin.

Black, hairy. *Thorax with* 3 *grey stripes; underside grey*. *Wings nearly colourless*; stigma dark brown; veins black. Halteres very dark brown. Knees ferruginous. *Male*. Fore metatarsi dilated, oval.

Generally distributed. (E. S.)

9. **interstincta,** Fln. d. s. emp. 24. 17 (1815); Ztt.—*modesta,* Mg. *Nigro-fusca, cinerascens,* antennis pedibusque nigris, *thorace fusco-trivittato; Mas. alis limpidis; Fœm. alis fuscis.* Long. 2½; alar. 6 lin.

Blackish-brown, tinged with grey, hairy. Proboscis, antennæ, and legs black. *Thorax indistinctly striped.* Stigma blackish-brown; veins black, tawny at the base. Halteres pitchy, with black knobs. *Male. Wings colourless.* Fore metatarsus slightly dilated. *Fem. Wings brown.*

Rare. In Mr. Stephens's collection. (E. I.)

10. **fuscipes,** Fb. e. s. iv. 4. 6. 14 (1792); Mg.; Mq.; Ztt.—*plumbea,* Fb.; Mg.—*albida,* Mg. *Cinerea,* antennis nigris, *thorace fusco-bivittato, alis subcinereis,* halteribus flavis; *Mas. pedibus nigris; Fœm. pedibus fuscis.* Long. 1½–2; alar. 3–4 lin.

Grey, hairy. Proboscis, palpi, and antennæ black. *Thorax with 2 brown stripes. Wings very slightly tinged with grey*; stigma brown; veins black, tawny towards the base. Halteres yellow. Legs ferruginous. *Male. Legs black*; fore metatarsi dilated, fusiform. *Fem. Legs dark brown.*

Generally distributed. (E. S.)

11. **pruinosa,** Mgrle.; Mg. zw. iii. 7. 10 (1822). *Cana,* antennis nigris, *alis albidis,* halteribus flavis apice fuscis, *pedibus fuscis.* Long. 1½; alar. 3½ lin.

Fem. Hoary, slightly hairy. Proboscis, palpi, and antennæ black. *Wings whitish*; stigma dark brown, long and narrow; veins brown, yellow towards the base. Halteres pale yellow, with brown knobs. *Legs pale brown*; knees yellow.

Generally distributed. (E.)

12. **quadrivittata,** Wd.; Mg. zw. iii. 7. 11 (1822); Mq.; Ztt.—*intermedia,* var. *minor,* Fln. *Cinerea,* antennis nigris, *thorace fusco-quadrivittato, alis subcinereis costæ versus apicem obscurioribus,* halteribus fuscis, *pedibus nigro-fuscis.* Long. 1¾; alar. 4½ lin.

Dark grey, hairy. Proboscis, palpi, and antennæ black. *Thorax with 4 brown stripes. Wings slightly grey, darker along the fore border towards the tips*; stigma brown; veins black, tawny towards the base. Halteres brown. *Legs blackish-brown*; knees tawny. *Male.* Fore metatarsus dilated, long-oval.

Rare. In the collection of the Entomological Club. (E. S.)

13. **lurida,** Fln. d. s. emp. 22. 13 (1815); Mg.; Ztt.—*Nigro-cinerea,* antennis nigris, *thorace fusco-bivittato, alis subcinereis,* halteribus fuscis basi fulvis, *abdomine basi fulvo, pedibus fulvis,* tarsis nigris. Long. 1¾; alar. 5 lin.

Greyish-black, hairy. Proboscis, palpi, and antennæ black. *Thorax with 2 indistinct brown stripes. Wings pale grey*; stigma brown; veins black, dark tawny at the base. Halteres brown, tawny at the base.

Abdomen dull tawny towards the base. Legs dull tawny; tarsi black; metatarsi dull tawny. Male. Fore metatarsi slightly dilated.

Generally distributed. (E.)

14. **litorea,** Fln. d. s. emp. 24. 20 (1815); Mg.; Mq.; Ztt.—*univitatta,* Mg. *Albo-cinerea,* antennis nigris, *alis limpidis,* halteribus ferrugineis, *pedibus fulvis.* Long. $1\frac{3}{4}$; alar. $4\frac{1}{2}$ lin.

Cinereous-white, clothed with pale hairs and black bristles. Proboscis dark ferruginous. Antennæ black. *Wings colourless*; stigma pale brown; veins black, tawny towards the base. Halteres ferruginous. *Legs tawny. Male.* Fore metatarsus fusiform, dilated.

Generally distributed. (E. S. I.)

15. **tenella,** Fln. d. s. emp. 25. 21 (1815); Mg.; Ztt. *Cana,* antennis nigris, *alis subferrugineis,* halteribus flavis apice fuscis, *abdomine cano-fulvo, pedibus fulvis vel flavis, tarsis fuscis.* Long. $1\frac{1}{2}$; alar. 3 lin.

Hoary, slightly hairy. Proboscis, palpi, and antennæ black. *Wings with a very slight ferruginous tinge*; stigma brown; veins black, tawny towards the base. Halteres pale yellow, with brown knobs. *Abdomen dull tawny, with a hoary covering. Legs tawny, sometimes yellow; tarsi brown. Male.* Fore metatarsi slightly dilated.

Generally distributed. (E.)

16. **nana,** Mq. d. n. 111. 4 (1827); Mg. *Atra, alis nigricantibus.* Long. $1\frac{1}{4}$; alar. $2\frac{1}{2}$ lin.

Deep black, hairy. *Wings blackish*; stigma and veins black. *Male.* Fore *metatarsi* dilated, *nearly round.*

Not very common. (E.)

17. **recedens,** n. *Cinerea,* capite antennisque nigris, *thorace fusco-bivittato, alis cinereis,* halteribus flavis, *pedibus nigris.* Long. 1; alar. 2 lin.

Grey, slightly hairy. Head, proboscis, and antennæ black. *Thorax with 2 brown stripes. Wings grey*; stigma and veins black. Halteres pale yellow. *Legs black.*

Rare. In the collection of the Entomological Club. (E.)

18. **rufipes?** Mq. d. n. 114. 13 (1827); Mg. *Nigro-cinerea,* antennis nigris, *alis subcinereis,* halteribus fuscis basi fulvis, *tarsis nigris; Mas. pedibus fuscis; Fœm. pedibus fulvis.* Long. $2-2\frac{1}{2}$; alar. $5-5\frac{3}{4}$ lin.

Greyish-black, hairy. Proboscis, palpi, and antennæ black. *Wings pale grey*; stigma dark brown; veins black, dark tawny at the base. Halteres brown, tawny at the base. *Tarsi black. Male. Legs brown*; knees tawny; fore metatarsi much dilated. *Fem. Legs tawny*; tarsi tawny towards the base.

Rare. In the collection of the Entomological Club. (E.)

19. **thoracica,** Mq. d. n. 115. 14 (1827); Mg. *Fulva,* antennis nigris, alis cinereis, tarsis fuscis; *Mas.* abdomine fusco. Long. 2; alar. 5 lin.

Tawny, shining, slightly hairy. Proboscis, palpi, and antennæ black; *fourth joint of the antennæ longer than the third.* Wings grey; stigma brown; veins black, tawny towards the base; fork of the third longitudinal vein long, much curved near the base. Tarsi brown. *Male.* Abdomen brown. Fore metatarsi very long, slightly dilated.

Common in woods; not gregarious. (E.)

20. **obscura,** Mg. zw. iii. 11. 20 (1822). *Nigra, alis sublimpidis, halteribus pedibusque fuscis, tarsis nigris.* Long. $1\frac{1}{4}$; alar. 3 lin.

Black, hairy. *Wings almost colourless*; stigma dark brown; veins black. *Halteres dark brown. Legs brown; knees tawny; tarsi black.*

Rare. In the collection of the Entomological Club. (E.)

Genus III. **RAGAS.**

RAGAS, Wlk. e. m. iv. 229 (1837).

Proboscis incurva, capite multo brevior. Antennæ 5-articulatæ; articulus tertius quinto longior. Alarum vena cubitalis furcata. Coxæ femoribus breviores.

Proboscis incurved, much shorter than the head. No maxillæ. Palpi obovate. Antennæ with the first joint shortest; third joint longer than the fifth. Wings with the cubital vein forked. Coxæ shorter than the femora.

Male. Proboscis shorter. Middle femora with an erect spine at the middle of the underside.

1. **unica,** Wlk. e. m. iv. 229. 1 (1837). Atra, pubescens, alis nigro-fuscis ad costam obscurioribus. Long. $\frac{3}{4}$–1; alar. $1\frac{1}{4}$–$1\frac{1}{2}$ lin.

Black, dull, rather short, not hairy. Proboscis slender, twice the length of the head. Wings dark brown; no stigma. Abdomen tapering, a little longer than the thorax. Legs moderately long.

Rare; appears in woods. In the collections of the Entomological Club and of Mr. Haliday. (E. I.)

Genus IV. **BRACHYSTOMA.**

BRACHYSTOMA, Mg. zw. iii. 12 (1822); Mq. *Brachystoma* p., Ztt.

Proboscis capitis longitudine. Antennæ 4-articulatæ; articulus primus cylindricus; secundus cyathiformis; tertius conicus, *quarto brevior*; quartus longissimus, setiformis. Alarum *vena cubitalis* furcata; *costalis ad alæ apicem desinens. Coxæ femoribus breviores.*

Proboscis projecting, perpendicular, as long as the head. Antennæ porrect, 4-jointed; first joint cylindrical; second cyathiform; third conical, *shorter* than the fourth; fourth very long, setiform. Wings incumbent and parallel in repose; *cubital vein forked; costal vein vanishing at the tip of the wing. Coxæ shorter than the femora.*

1. **longicornis,** Mg.! zw. iii. 12. 1. pl. 22. f. 6, 7 (1822); Mq.; Ztt. Nigra, gracilis, subtus nigro-chalybea, alis subcinereis, halteribus pedibusque fulvis, tarsis fuscis. Long. $2\frac{1}{2}$; alar. 5 lin.

Body very slender, black, with a slight tinge of chalybeous, which prevails most beneath. Proboscis dark tawny. Antennæ black, very long and slender. Wings pale grey; stigma pale brown. Halteres tawny. Legs tawny; tibiæ much darker than the femora; tarsi brown; hind tarsi black.

Very rare. In Mr. Stephens's collection. (E. I.)

Genus V. **ARDOPTERA.**

ARDOPTERA, Mq. d. n. (1827). *Leptosceles,* Hal.

Corpus gracile. *Caput nutans, oblongo-ovatum; genæ sub oculis interruptæ*; epistoma lineare, attenuatum. Oculi magni, ovati, approximati. Proboscis brevis, crassa, palpis incumbentibus. *Antennæ* 4-articulatæ; articulus primus minutus; tertius ovatus, compressus, *quarto brevior*; quartus longissimus, setiformis. Alæ incumbentes; *vena cubitalis furcata; vena costalis marginem posticum attingens.* Pedes graciles; *coxæ femoribus breviores;* coxæ anticæ longæ.

Body slender. *Head oblong-ovate, inclining forwards; cheeks interrupted by a notch under the eyes*; epistoma linear, attenuated. Eyes large, oval, approximate. Proboscis short, thick; palpi incumbent. Antennæ 4-jointed; first joint small; third oval, compressed, *shorter than the fourth*; fourth very long, setiform. Wings incumbent and parallel in repose; *cubital vein forked; costal vein attenuated around the posterior margin. Coxæ shorter than the femora*; fore coxæ long; onychia and empodium small, this scarcely thickened.

1. **irrorata,** Fln. d. s. emp. 13. 17 (1815); Hal.; Mg. Nigro-ænea, capite argenteo, antennis nigris, thorace albo fasciato et utrinque notato, *alis* cinereis *albo-guttatis ad costam subfuscis,* halteribus flavis, pedibus fulvis, tibiis tarsisque apice fuscis. Long. 1–$1\frac{1}{4}$; alar. 2–$2\frac{1}{2}$ lin.

Body æneous-black. Head silvery. Eyes black when dead. Proboscis, palpi, and antennæ black; third joint of the antennæ conical, compressed, a little longer than the two preceding; fourth more than twice the length of all the preceding. A whitish stripe on the thorax, and some white marks in front and on each side. *Wings* grey, *brownish along the fore border, chequered with white spots, which are largest and*

most distinct near the fore border, and are almost wanting in the middle of the disc; veins black, slightly waved. Halteres yellow. Legs tawny; hinder coxæ and tips of the tibiæ and of the tarsi brown.

Inhabits damp woods. (E. I.)

2. **guttata,** Hal.—*irrorata,* Mg. zw. iii. 66. 9 (1822).—*exoleta* v., Hal. Nigro-ænea, capite argenteo, antennis nigris, thorace albo fasciato et utrinque notato, *alis* cinereis, *margine postico apiceque maculis sex limpidis, venis fusco-nebulosis,* halteribus flavis, pedibus fulvis, tibiis tarsisque apice fuscis. Long. 1–1¼; alar. 2–2½ lin.

Male and *Fem.* Body æneous-black. Head silvery. Proboscis, palpi, and antennæ black; third joint of the antennæ conical, compressed, a little longer than the two preceding; fourth more than twice the length of all the preceding. Thorax with a white stripe, and with some white marks in front and on each side. *Wings* grey, *brownish along the borders of the veins, with* 6 *colourless spots along the hind border and at the tips.* Halteres yellow. Legs tawny; tips of the tibiæ and of the tarsi brown.

Generally distributed. (E. S. I.)

Genus VI. **HELEODROMIA.**

Heleodromia, Hal.; Wtw. class. (1840). *Empis* p., Fln. suppl. *Hemerodromia* p., Mg. *Heleodromia* p., Hal. e. m. i. 159; Ct. *Hydrodromia,* Mq. *Paramesia,* Mq. *Brachystoma* p., Ztt.

Caput verticale, oblato-orbiculatum, genis infra oculos non continuis, epistomate indiscreto. Proboscis crassa, descendens, palpis incumbentibus. Antennæ 5*-articulatæ; articulus tertius quinto brevior, apice attenuatus; quintus setiformis, breviuscula, curvata. Alæ vena cubitali furcata, externo-mediis* 3 *ex areola discali oblongo hexagona excurrentibus. Coxæ femoribus breviores; empodium incrassatum ut onychia.*

Body slender. *Head* small, *vertical, oblato-orbiculate. Genæ interrupted by a notch under the eyes.* Face long, attenuated; clypeus apparently divided. Eyes small, oval, remote. *Proboscis thick, declining.* Labrum transverse, very broad at the tip. Lingua broad, lanceolate, with an obtuse tooth on the upper side at the base. *Palpi incumbent,* large, clavate, pilose. Labium short, thick, pubescent. Antennæ 5-jointed, small, porrect, pubescent, inserted between the eyes near the middle of the face; first, second, and third joints stout; first clavate, obliquely truncate; second cyathiform; *third nearly round, attenuated on one side of the tip, shorter than the fifth*; fourth very minute; fifth setaceous, *rather short, curved.* Thorax almost fusiform; scutellum semicircular. Wings long, narrow, incumbent and parallel

in repose; *cubital vein forked;* 3 *externo-medial veins proceeding from an oblong* hexagonal discal areolet; *costal vein attenuated round the posterior margin.* Legs long, slender; *coxæ shorter than the femora*; fore coxæ large; *empodium thickened in a brush like the onychia. Male.* Abdomen linear, terminated by a conical, compressed process. *Fem.* Abdomen fusiform, terminated by two small lobes.

The *Heleodromiæ* frequent moist ground, ponds, lakes, and rivulets. The species may be grouped thus:—

a. Wings with a stigmatical spot. Species 1.
a a. Wings with dusky clouds. Species 2, 3.
a a a. Wings immaculate. Species 4.

1. **stagnalis,** Hal. e. m. i. 159 (1833); Ct.—*Westermanni*, Ztt. *Cinerea, subtus schistacea, epistomate subquadrato argenteo,* antennis nigris, alis subcinereis, *venis transversis obsolete fusco-limbatis,* halteribus fuscis, abdomine supra nigricante maculis cinereis bivittato, *femoribus apice testaceis.* Long. $1\frac{3}{4}$; alar. $4\frac{1}{2}$ lin.

Male and *Fem.* Body olive, slate-colour beneath; epistoma silvery. Eyes red. Proboscis and antennæ black. Wings pale grey; veins black; transverse veins slightly clouded with brown. Halteres brown. Abdomen blackish above, with a row of grey spots along each side. Legs black; thighs slate-colour, their tips pale red.

The most common species; appears in small flights, on ponds, swamps, and running streams, among the crowded starwort (*Callitriche verna*), and on duckweed (*Lemna*). (E. S. I.)

2. **Zetterstedti,** Fln. suppl. (1827); Ztt.—*bipunctata*, Hal.; Ct. Cinerea, subtus schistacea, vitta dorsali fusca, *hypostomate lineari argenteo, alis puncto stigmaticali fuscescente,* pedibus *pallide ferrugineis.* Long. $1\frac{1}{2}$; alar. 4 lin.

Cinereous. Hypostoma narrow, silvery. Antennæ black. Thorax with a dusky stripe down the middle; sides pearly grey. *Wings greyish, with a brown dot beyond the middle of the costa.* Discal areolet more attenuate-elongated than in the other species, thus somewhat approaching the genus *Wiedemannia*; anal areolet linear and not oval, with an abbreviated but distinct rudiment of the anal vein continued from its apex; stigmatical dot fusco-ferruginous, somewhat oblong (not round, as in *Wied. bistigma*).

Rare; occurs about rivulets. In Mr. Haliday's collection. (I.)

3. **fontinalis,** Hal. e. m. i. 160 (1833); Ct.—*Wesmælii*, Mq.; Ztt. Olivacea, subtus schistacea, *hypostomate subtrigono* argenteo, thorace vittato, *alarum costa venisque transversis saturate fusco-limbatis,* pedibus *posterioribus et femoribus anticis testaceis, his basi fusca subtus trispinosa.* Long. $1\frac{1}{2}$; alar. 4 lin.

Front deep olive; epistoma silvery. Antennæ black. Thorax deep olive, with 2 chestnut stripes divided by a pale line; underside schis-

taceous. *Wings dusky; costa and veins of the tip bordered with a deep tinge; small transverse veins of the base bordered with deep brown; another spot surrounds the fork of the apical vein, and a third includes the ordinary transverse vein*; these markings are rather diffused and cloud-like, but deeply coloured. Abdomen with a blackish indented dorsal stripe. *Hinder legs and fore femora testaceous, the latter at the base dusky, glossed with grey, with* 3 *spines beneath. Male.* Hypopygium nearly as in *H. stagnalis*, with an elongated reflected style pale at the tip and terminated by a curved seta. Fore femora tufted with hairs beneath at the apex.

In Mr. Haliday's collection. (S. I.) Common enough in many places, such as lakes, rivulets, and on the ground moistened by their overflow, under the shade of trees. (E. S. I.)

4. **unicolor,** Ct. b. e. (1834).—*Robertii* ? Mq.—*Bohemanni*, Ztt. *Olivaceo-fusca, subtus cinerea, femoribus apice coxisque luteis, alis immaculatis.* Long. $1\frac{1}{2}$; alar. 4 lin.

Olive-brown, grey beneath. Face subquadrate, silvery-white. Coxæ and tips of the femora luteous. Wings unspotted.

Rare. In Mr. Haliday's collection. (E. S.)

Genus VII. **WIEDEMANNIA.**

WIEDEMANNIA, Ztt. i. l. (1837). *Heleodromia* p., Ct.

Corpus gracile. *Caput infra oculos elongatum, epistomate angulatim inflexo bifido.* Proboscis crassa, descendens, palpis incumbentibus. Antennæ 5-articulatæ; articulus tertius apice attenuatus, quinto brevior; quintus setiformis, brevis, curvatus. Alæ angustæ, *vena cubitali furcata, externo-mediis* 3 *ex areola discali irregulariter pentagona excurrentibus, costali marginem posticum attingente. Coxæ femoribus breviores.*

Body slender. *Cheeks prolonged under the eyes. Epistoma bifid; its inflection* forming an angle. Proboscis thick, declining, with incumbent palpi. Antennæ 5-jointed; *third joint attenuated at the tip, shorter than the fifth*; fifth setiform, short, curved. Wings narrow; *cubital vein forked; costal vein attenuated around the posterior margin*; 3 externo-medial veins proceeding from the irregularly pentagonal discal areolet. *Coxæ shorter than the femora*; empodium thickened in a brush like the onychia.

Obs. Clinocera seems to differ from *Wiedemannia* chiefly in the form of the discal areolet, which is hexagonal, as in *Heleodromia*; while in *Wiedemannia* it is nearly pentagonal, the first and second externo-medial veins springing almost together from the elongated anterior apical angle.

1. **bistigma,** Ct.! b. e. 513 (1834).—*borealis*, Ztt., var.—*juvenilis* ? Ztt. Schistacea, disco ferrugineo, *alis subcinereis macula costali fusca*, halteribus fulvis. Long. 2; alar. 5 lin.

Opake slate-colour, slightly pubescent, ferruginous on the disc above, pale bluish beneath. *Wings* pale grey, *with a round brown spot near the tip of the costa.* Halteres tawny.

Rare. Mr. Haliday has often found it about the edges of granite blocks bathed by a rapid rivulet, in the county Wicklow. In Mr. Haliday's collection. (E. I.)

2. **lotæ,** Hal. MSS. *Cinerea, subtus schistacea, hypostomate argenteo, alis immaculatis.* Long. 2½; alar. 5 lin.

Half the size of *W. bistigma.* Slaty grey. Vertex, mesonotum, and less evidently the back of the abdomen cinereous, with a ferruginous cast. Face silvery-white, head less elongated than in *W. bistigma*, and the antennæ and proboscis shorter. Wings broader in proportion, obscure, hyaline, immaculate. Radial vein not sinuated towards the end. Anterior branch of the cubital vein more curved. Mediastinal vein ferruginous, the others dusky. Halteres fuscous, the base ferruginous. Legs immaculate, blackish-brown with a cinereous tinge. *Male.* Hypopygium dusky with a cinereous tinge; the valves at the end of it pale ferruginous.

Rare; in the county of Wicklow. In Mr. Haliday's collection. (I.)

Genus VIII. **SCIODROMIA.**

Sciodromia, Hal.; Wtw. cl. (1840). *Heleodromia* p., Mq. *Hemerodromia* p., Rs. *Microcera*, Ztt.

Antennarum articulus tertius quinto brevior. Vena cubitalis simplex; vena externo-mediæ 3. *Coxæ femoribus breviores.*

Palpi affixed to the base of the compressed maxillæ. *Third joint of the antennæ shorter than the fifth. Cubital vein simple; externo-medial veins* 3, *arising from a discal areolet.* Costal vein attenuated round the posterior margin of the wing. *Coxæ shorter than the femora.*

1. **immaculata,** Hal. e. m. i. 159 (1833); Ct.—*fuscipennis*, Roser.—*rostrata*, Ztt. Cinerea, antennis nigris, alis subferrugineo-cinereis, halteribus fuscis, pedibus nigro-fuscis. Long. 1; alar. 2½ lin.

Male and *Fem.* Body cinereous. Epistoma narrow, silvery; a ferruginous tinge on the front and on the thorax. Eyes red. Proboscis and antennæ black. Wings grey, with a slight ferruginous tinge. Veins black. Halteres brown, yellow at the base. Hypopygium of the male reflected, ventricose. Legs dark brown; coxæ cinereous.

Not rare. (E. I.)

Genus IX. **RHAMPHOMYIA.**

RHAMPHOMYIA, Hms.; Mg. zw. iv. 42 (1822); Mq.; Ztt.; Ct. *Empis* p., Fb.; Gm.; Ll.; Pz.; Mg. kl.; Fln.

Proboscis verticalis, capite longior. Antennis articulus tertius quinto longior. Vena cubitalis simplex; venæ externo-mediæ 3; *coxæ femoribus breviores.*

Head small, globose. Eyes large, elliptical. *Proboscis* long, *vertical, perpendicular.* Labrum stout, longer than the head. Lingua flat, lanceolate, as long as the labrum. Maxillæ long, slender, acute, much shorter than the lingua. Palpi clavate, pilose, much shorter than the maxillæ. Labium clavate, very slender at the base, as long as the labrum. Antennæ inserted in the middle of the face, contiguous at the base, porrect, stout, pubescent, 5-jointed, not longer than the head; first and second joints bristly; first linear; second globose, not half the length of the first; third long, tapering from the base to the tip, *longer than the fifth*; fourth minute, cyathiform; fifth longer, slender, tapering. Thorax much broader than the head; scutellum rounded. Wings ample, incumbent and parallel in repose; *cubital vein simple; externo-medial veins* 3, *arising from a discal areolet*; costal vein attenuated round the posterior margin, but very faint there in most species. Halteres rather large. Abdomen tapering. Legs longer; hind legs longer and thicker than the anterior; *coxæ shorter than the femora*; tibiæ more or less clavate; metatarsi sometimes dilated.

Male. Eyes contiguous. Ocelli on a tubercle behind the eyes. Abdomen clavate at the tip.

Fem. Eyes remote. Ocelli on the crown. Abdomen acuminated at the tip with 2 compressed hairy lobes.

The *Rhamphomyiæ* resemble the *Empides* in habit, and the species have nearly the same variations of structure. They may be thus divided:—

a. Body black or cinereous.
  b. Halteres white or pale. Species 1–6.
  b b. Halteres brown or black. Species 7, 8.
a a. Body partly or wholly pale. Species 9, 10.

1. **nigripes,** Fb. e. s. iv. 405. 13 (1792); Mg.! zw. iii. pl. 23. f. 2; Mq.; Ztt.—*crassirostris,* Fln. Antennis nigris, *thorace nigro-quadrivittato, alis limpidis,* halteribus flavis. *Mas. Cinerea, pedibus nigro-fuscis. Fœm. Cana, pedibus nigris.* Long. $2\frac{1}{2}$–3; alar. 6–7 lin.

Clothed with black hairs. Proboscis, palpi, and antennæ black; first and second joints of the antennæ cinereous; third lanceolate, longer than the first and the second; fifth about one-third of the length of the third. *Thorax with* 4 *black stripes,* the outer pair indistinct. *Wings colourless*; stigma dark brown, narrow; veins black, tawny

towards the base. Halteres pale yellow. *Male. Cinereous. Legs blackish-brown. Fem. Hoary. Legs black.*

Generally distributed. (E. S. I.)

2. **sulcata,** Mg. kl. i. 229. 26 (1804); Fln.; Mq.; Ztt. *Cinerea,* antennis nigris, *thorace fusco-trivittato, alis subcinereis basi et ad costam subfuscis,* halteribus flavis, *pedibus nigris.* Long. 3; alar. 8 lin.

Cinereous, clothed with black hairs. Antennæ black; third joint lanceolate, more than twice the length of the first and the second; fifth not more than one-fourth of the length of the third. *Thorax with 3 dark brown stripes. Wings pale grey, dull tawny at the base and along the fore border*; no stigma; veins brown, black along the fore border, tawny towards the base. Halteres yellow. *Legs black*; hind femora armed with black spines; hind metatarsi slightly dilated.

Generally distributed. (E. S. I.)

3. **spinipes,** Fln. d. s. emp. 26. 21 (1815); Mg.; Mq.; Ztt.—*carbonaria*? Hms.; Mg. *Cinerea,* antennis nigris, *thorace fusco-trivittato, alis ferrugineo-fuscis,* halteribus luteis, pedibus nigris; *Mas. femoribus posticis subtus fasciculato-setosis; Fœm. abdomine schistaceo, tibiis posticis subciliatis.* Long. 3–3½; alar. 7–8 lin.

Cinereous, clothed with short black hairs, and with a few black bristles. Proboscis and antennæ black; third joint of the antennæ much longer than the first and the second; fifth not one-fourth of the length of the third. Thorax with 3 very slender brown stripes. Wings ferruginous-brown; stigma dark brown. Halteres luteous. *Male.* Hind femora armed beneath with a cluster of bristles. *Fem.* Abdomen slate-colour. Hind tibiæ slightly ciliated.

Rare. (E. S.)

4. **cinerascens,** Mg. kl. i. 230. 28 (1804). *Cinerea,* antennis nigris, *thorace fusco-trivittato,* halteribus flavis, *pedibus nigris; Mas. alis albidis; Fœm. alis subcinereis.* Long. 2; alar. 4 lin.

Grey, clothed with short black hairs. Proboscis and antennæ black, *Thorax with 3 brown stripes.* Stigma brown. Halteres pale yellow. *Legs black. Male. Wings whitish. Fem.* Wings pale grey.

Generally distributed. (E. I.)

5. **cæsia,** Hms.; Mg. zw. iii. 56. 29 (1822). *Cana,* antennis nigris, *alis sublimpidis,* halteribus flavis, *pedibus fuscis.* Long. 1½–2; alar. 5–6 lin.

Male. Hoary, thinly clothed with black hairs. Proboscis black, reaching the fore coxæ. Antennæ black; fifth joint much shorter than the third. *Wings almost colourless*; stigma brown. Halteres pale yellow. *Legs brown*; hind femora and hind tibiæ slightly dilated, armed with teeth beneath; hind femora hairy beneath.

Generally distributed. (E. S. I.)

6. **variabilis,** Fln. d. s. emp. 29. 33 (1815); Mg.; Mq.; Ztt.

Cinerea, antennis nigris, *thorace fusco-trivittato*, halteribus fulvis, *abdomine ferrugineo, pedibus fulvis; Mas. alis ferrugineis; Fœm. alis limpidis.* Long. 2; alar. 5 lin.

Cinereous, clothed with black hairs and bristles. Proboscis black, reaching the fore coxæ. Antennæ black; third joint lanceolate, very much longer than the first and the second; fifth less than one-fourth of the length of the third joint. *Thorax with* 3 *brown stripes.* Stigma brown; veins black, tawny towards the base. Halteres tawny. *Abdomen ferruginous. Legs* slender, *tawny*; tarsi brown towards the tips. *Male. Wings ferruginous. Fem. Wings colourless.*

Generally distributed. (E. S.)

7. **longipes,** Mg. kl. i. 231. 34 (1804); Mq.; Mg.; Ztt. Nigra, alis albidis. Long. $1\frac{3}{4}$–2; alar. 4–$4\frac{1}{2}$ lin.

Black, shining, thinly clothed with black hairs and bristles. Proboscis reaching the middle coxæ. Third joint of the antennæ lanceolate, much longer than the first and the second; fifth much shorter than the third. Wings whitish; no stigma; veins tawny, black along the fore border. Hind tibiæ slightly clavate; hind metatarsi slightly dilated.

Generally distributed. (E.)

8. **æthiops?** Ztt. d. s. i. 436. 60 (1842). Nigra, alis subcinereis. Long. 1; alar. 3 lin.

Black, shining, clothed with short black hairs. Proboscis reaching the hind coxæ. Third joint of the antennæ very much longer than the first and the second; fifth a little more than half the length of the third. *Wings very pale grey*; stigma black, very narrow. *Hind femora and hind tibiæ ciliated on both sides.*

Not rare. (E.)

9. **pennata,** Mq. d. n. emp. 133. 6 (1827); Mg.; Ct.! b. e. 517. *Cana*, antennis nigris basi fulvis, thorace fusco-trivittato, alis subferrugineo-cinereis, halteribus flavis, abdomine pedibusque fulvis, femoribus tibiisque posterioribus ciliatis. Long. 2; alar. 5 lin.

Fem. Hoary, thinly clothed with black hairs. Proboscis ferruginous, reaching the fore coxæ. Antennæ black; first and second joints tawny; third nearly twice the length of the first and the second; fifth much less than half the length of the third. Thorax with 3 brown stripes. Wings slightly ferruginous-grey; no stigma. Halteres pale yellow. Abdomen tawny. Legs tawny; posterior femora and tibiæ ciliated with brown hairs.

Not common. (E.)

10. **flava,** Fln. d. s. emp. 30. 35 (1815); Mg.; Ztt. *Flava*, antennis nigris basi flavis, thorace fusco-univittato, metathoracis disco subcinereo, alis limpidis, halteribus fulvis, abdominis segmentorum marginibus posticis apiceque fuscis, pedibus flavis, tarsis fuscis. Long. 2; alar. $4\frac{1}{2}$ lin.

Yellow, slender, thinly clothed with black hairs and bristles. Head black. Proboscis pale yellow, blackish towards the tip. Antennæ black; first joint yellow; second brown; fifth rather more than half the length of the third. Thorax with an indistinct slender pale brown stripe; disc of the metathorax greyish. Wings colourless; no stigma. Halteres tawny. Tip and hind borders of the segments of the abdomen brown. Legs yellow, long and slender; tips of the tibiæ darker; tarsi brown.

Not common. (E. S.)

Genus X. **EUTHYNEURA.**

EUTHYNEURA, Mq. a. s. e. iii. (1836).

Proboscis porrecta, capite longior. Antennarum articulus tertius quinto longior. Alarum vena cubitalis simplex; venæ externo-mediæ 3. *Coxæ femoribus breviores.*

Proboscis horizontal, longer than the head. Third joint of the antennæ longer than the fifth. Cubital vein simple; externo-medial veins 3, *arising from a discal areolet. Coxæ shorter than the femora.*

1. **myrtilli,** Mq. a. s. e. iii. (1836). Nigra, *antennis apice subulatis, alis limpidis, tibiis basi femoribusque fulvis.* Long. $1\frac{1}{4}$; alar. 3 lin.

Black, shining, not hairy. *Tips of the antennæ subulate.* Wings colourless; stigma pale brown. Tibiæ towards the base and femora tawny.

Rare. In Mr. Haliday's collection. (E. I.)

2. **myricæ,** Hal., MSS. Nigra, *gracilis, antennis apice obtusis, alis limpidis, abdomine attenuato, pedibus fuscis, tarsis nigris.* Long. $1\frac{1}{4}$; alar. $1\frac{3}{4}$ lin.

Black, long, slender, not hairy. *Tips of the antennæ obtuse.* Wings colourless. Halteres tawny. Abdomen attenuated, about thrice the length of the thorax. Legs brown, long, slender; tarsi black.

Rare. In Mr. Haliday's collection. (E. I.)

Genus XI. **ŒDALEA.**

ŒDALEA, Mg. zw. ii. 355 (1820); Mq.; Ztt. *Empis* p., Fln. *Xiphidicera*, Mq.

Corpus minutum, subelongatum, glabriusculum, nitidum. Color corporis niger, pedum pallidus. *Proboscis capite brevior.* Palpi dilatati, compressi. Antennæ 5-articulatæ, porrectæ, capite longiores, basi

approximatæ; articuli primus et secundus brevissimi; primus subcylindricus; secundus cyathiformis; tertius longus, compressus, subuliformis, *quinto longior*; quartus et quintus brevissimi; quintus stylatus. Thorax ovatus, gibbosus. *Vena cubitalis simplex; venæ externo-mediæ* 3. Alulæ integræ, angustæ, ciliatæ. *Coxæ femoribus breviores.* Pedes postici anterioribus paullo longiores, *femora postica* subincrassata, subtus plerumque spinulosa; *tibiæ posticæ arcuatæ, femoribus breviores.*

Mas. Oculi connexi. Anus obtusus.

Fœm. Oculi paullo discreti. Anus acuminatus.

Body black, rather long, smooth, shining. Head round. Eyes red, parted above by a suture; all the facets very small. Ocelli 3, on the crown. *Proboscis* horizontal, *shorter than the head.* Palpi dilated, compressed. Antennæ 5-jointed, porrect, longer than the head, approximate at the base; first and second joints very short, of equal length; first almost cylindrical; second cyathiform; third compressed, subuliform, *longer than the fifth*; fourth and fifth very small, hardly visible; fifth stylate. Thorax oval, gibbose. Wings large, obtuse, very finely pubescent; *cubital vein simple*; 3 *externo-medial veins arising from a trapeziform discal areolet.* Alulæ entire, narrow, fringed. Halteres uncovered, with large knobs. Abdomen with 7 segments, cylindrical, pubescent. *Coxæ shorter than the femora*; anterior legs slender, of equal length; hind legs long; hind femora thick, bristly beneath from the middle to the tips; *hind tibiæ curved, shorter than the femora.*

Male. Eyes united. Abdomen obtuse at the tip.

Fem. Eyes parted by a narrow interval. Tip of the abdomen acuminated.

These flies inhabit the leaves of shrubs, and herbage in woods; they move slowly; their flight is heavy, and they often hover in the air. The female lays its eggs in the decayed trunks of trees. The difference between *Œdalea* and the typical *Microphori* consists in the shorter curved hind tibiæ, and somewhat thicker and spined hind femora, and rather longer proboscis of the former.

1. **stigmatella,** Ztt. d. s. i. 216. 2 (1842). Nigra, *antennis fuscis, alis subfuscis,* abdominis basi fusca subtus fulva, pedibus fulvis, tibiis posticis tarsisque fuscis. Long. $1\frac{3}{4}$; alar. $3\frac{1}{2}$ lin.

Black, shining, thinly clothed with tawny hairs. Proboscis and *antennæ brown. Wings slightly tinged with brown*; stigma brown. Halteres yellow. Abdomen glossy at the base, brown above, tawny beneath. Legs tawny, clothed with short yellow hairs; hind femora armed beneath with black spines; tarsi and hind tibiæ brown; anterior tibiæ sometimes dark tawny. *Male.* Abdomen silky. Hind femora brown on nearly half the length from the tips. *Fem.* Pleuræ

partly pale. Abdomen glabrous, pale beneath. Tips of the hind femora brown.

Generally distributed. (E. I.)

2. **minuta,** Fln. d. s. emp. 32. 40 (1815); Mg.—*flavipes*, Ztt. —*tibialis*? Mq. d. i. 321. 1.—*rufipes*? Mq. zw. Nigra, *antennis fuscis, alis limpidis ad costam fuscis*, pedibus fulvis, tibiis sæpissime tarsisque fuscis. Long. $1\frac{1}{2}$–$1\frac{3}{4}$; alar. 3–$3\frac{1}{2}$ lin.

Black, shining, thinly clothed with tawny hairs. Proboscis and *antennæ brown. Wings colourless, more or less tinged with brown beneath the fore border*; transverse vein more oblique than that of *Œ. stigmatella*; stigma brown. Halteres yellow. Legs tawny; tarsi and posterior tibiæ brown. *Var.* Fore tibiæ brown. *Var.* Hind tibiæ tawny.

Not very common. (E. S. I.)

Genus XII. **MICROPHORUS.**

MICROPHORUS, Mq. d. n. (1827); Ztt. *Trichina*, Mg. *Platypeza* p., Mg. *Œdalea* p., Ztt.

Corpus minutum, vel minutissimum, glabriculum, nitidum. Color niger. Oculi connexi. Proboscis *capite brevior*, subocculta. Palpi cylindrici. Antennæ 5-articulatæ, capite longiores; articuli primus et secundus brevissimi, contigui; tertius longissimus, conicus, compressus, *quinto longior*; quartus brevissimus; quintus brevis, stylatus. Thorax gibbus. Alarum *vena cubitalis simplex; venæ externo-mediæ* 3. Pedes aut simplices aut tibiis posticis dilatatis; *coxæ femoribus breviores; tibiæ posticæ rectæ, femoribus non breviores.*

Mas. Anus obtusus.

Fœm. Anus acutus.

Body black, small, or very small, smooth, shining. Eyes red, connected. *Proboscis shorter than the head*, almost hidden. Palpi cylindrical. Antennæ 5-jointed, somewhat longer than the head; first and second very short, approximate; third very long, conical, compressed, *longer than the fifth*; fourth very short; fifth short, stylate. Thorax gibbous. Wings lanceolate; *cubital vein simple; externo-medial veins* 3, *arising from a discal areolet.* Legs either simple or with dilated hind tibiæ. *Coxæ shorter than the femora; hind tibiæ straight, shorter than the femora.*

Male. Tip of the abdomen obtuse.

Fem. Tip of the abdomen acute.

This genus differs from *Œdalea* by the conical third joint of the antennæ, by the longer and more distinct seta, and by the simple and unarmed hind femora. The *Microphori* appear in

summer, and frequent the leaves of shrubs, and herbage in fields and woods.

1. **flavipes,** Mg! zw. vi. 336. 1. pl. 60. f. 10 (1830); Mq.; Ztt. Niger, *abdomine basi fulvo, pedibus subfulvis; Mas. alis subfuscis; Fœm. alis limpidis.* Long. 1–1¼; alar. 2½–2¾ lin.

Black, shining, clothed with a few hairs. Facets of the eyes rather large. Stigma brown; veins of the wings black. *Abdomen dark tawny towards the base. Legs pale tawny, slender, simple. Male. Wings pale brown.* Halteres pale brown. *Fem. Wings colourless.* Halteres tawny.

Generally distributed. (E. I.)

2. **clavipes,** Mg. zw. vi. 336. 2 (1830); Mq.; Ztt.—*minutus* p., Ztt. Niger, *pedibus fuscis; Mas. thorace nigro-æneo, alis* halteribusque *fuscis, pedibus validis,* femoribus anterioribus et tibiis intermediis fulvis, femoribus posticis tibiis anticis et tibiis posticis basi fulvis, *femoribus posticis crassis, tibiis posticis clavatis; Fœm. alis limpidis,* halteribus flavis, tarsis basi fulvis, femoribus posticis tibiis anticis et tarsis nonnunquam fulvis apice fuscis. Long. 1–1¼; alar. 2¼–2¾ lin.

Black. *Legs brown. Male.* Facets of the eyes of moderate size. *Thorax æneous-black. Wings brown*; stigma dark brown; veins tawny towards the base. Halteres brown. *Legs stout*; anterior femora and middle tibiæ tawny; hind femora, fore tibiæ, and hind tibiæ tawny at the base; *hind femora thick; hind tibiæ clavate. Fem.* Shining. Facets of the eyes very small. *Wings colourless*; stigma pale brown; veins yellow at the base. Halteres yellow. Tarsi tawny at the base; hind femora, fore tibiæ, and tarsi sometimes tawny, with brown tips.

Generally distributed. (E. S. I.)

3. **velutinus,** Mq. d. n. 140. 2 (1827); Mg. Antennis pedibusque nigris. *Mas.* Ater, *alis cinereis,* halteribus nigris. *Fœm. Cinereus, alis limpidis,* halteribus tibiis anticis genubusque fulvis. Long. 1–1¼; alar. 2½–3 lin.

Proboscis, antennæ, and legs black. *Legs slender. Male.* Deep black, clothed with black hairs and bristles. *Wings grey*; stigma brown; veins and halteres black. Legs clothed with black hairs. *Fem. Grey. Wings colourless*; veins and halteres tawny; knees and fore tibiæ dark tawny.

Generally distributed. (E. S. I.)

4. **crassipes,** Mq. d. n. 140. 1 (1827); Mg.—*anomala,* Mg.—*tarsella,* Ztt. *Mas.* Ater, *alis limpidis, pedibus posticis subciliatis, tibiis posticis apice tarsisque posticis basi dilatatis.* Long. 1; alar. 2¼ lin.

Deep black, thinly clothed with black hairs and bristles. *Wings colourless*; stigma pale brown; veins and halteres black. Legs clothed with short black hairs; *hind legs slightly ciliated; hind tibiæ much*

dilated towards the tips; first joint of the hind tarsi very broad and long.

Very rare. In the collection of the Entomological Club. (E.)

5. **fuscipes,** Ztt. i. l. 540. 1 (1839). *Gracilis, pedibus fuscis. Mas.* Ater, *alis nigro-fuscis, abdomine subtus fusco,* tarsis nigris. *Fœm.* Niger, *alis subcinereis, abdomine fusco subtus basi fulvo,* femoribus fulvis apice fuscis. Long. $1\frac{1}{4}$; alar. $2\frac{1}{2}$ lin.

Slender. Legs long, slender, dark brown, not hairy. Male. Deep black, thinly clothed with short black hairs. *Wings dark brown*; stigma indistinct; veins and halteres black, the latter very large. *Abdomen brown beneath.* Tarsi black. *Fem.* Black. *Wings pale grey.* Halteres brown. *Abdomen dark brown, dark tawny beneath towards the base.* Femora tawny, with brown tips.

Not common. (E.)

6. **pusillus,** Mq. d. n. 140. 3 (1827); Mg.; Ztt. Ater, *alis limpidis,* halteribus fuscis, *pedibus validis* non pilosis, *tibiis posticis subclavatis.* Long. $\frac{3}{4}$; alar. 2 lin.

Fem. Deep black, smooth, shining, clothed with very few hairs. *Wings colourless*; veins black. Halteres brown. *Legs rather stout,* not hairy; *hind tibiæ slightly clavate.*

Rare. In the collection of the Entomological Club. (E.)

7. **minutus,** Mg. zw. vi. 336. 2 (1830); Mq.; Ztt.—*elongatus,* Hal. *Niger, nitidus, gracilis, genubus fulvis; Mas. alis fuscis; Fœm. alis limpidis.* Long. 1; alar. $1\frac{3}{4}$ lin.

Slender, narrower than M. clavipes. Black. Legs slender; knees tawny. *Male.* Thorax bronzed. Wings brown. Hind tibiæ somewhat clavate. *Fem.* Wings colourless. Abdomen very much produced and pointed. Fore femora pale, as well as the base of the other femora and of the tibiæ.

Rare; generally appears on larches. In Mr. Haliday's collection. (I.)

Genus XIII. **CYRTOMA.**

Cyrtoma, Mg. zw. iv. 1 (1824); Mq.; Hal.; Ztt. *Empis* p., Flu.

Corpus minutum, molle, gibbum, totum pubescens. Color niger. Caput parvum, globosum. Oculi nudi, contigui. Proboscis declivis, brevissima. Palpi compressi, incumbentes. Antennæ 5-articulatæ, porrectæ, basi approximatæ; articulus primus brevissimus; secundus parvus, cylindricus; tertius longus, obclavatus, compressus; quartus et quintus stylati. Alæ obtusæ; *vena cubitalis simplex*; *venæ externo-mediæ* 3; *prima et secunda furcam fingentes; areola discoidalis* nulla. *Coxæ femoribus breviores*; pedes postici longi, tibiis apice subincrassatis.

Mas. Abdomen brevius; anus obtusus, appendiculatus.
Fœm. Abdomen longius; anus vaginatus.

Body black, small, soft, pubescent. Head small, semicircular. Eyes contiguous; facets rather large. Ocelli 3, on the crown. Proboscis projecting, hardly perpendicular. Labrum narrow, curved, tubercular at the base, as long as the labium. Lingua slender, curved, somewhat longer than the labrum. Labium cylindrical. Antennæ 5-jointed, porrect, approximate at the base, diverging upwards; first joint very short; second small, cylindrical; third long, obclavate, compressed, pubescent; fourth very short; fifth stylate, curved upward. Thorax gibbous. Wings oblique, finely pubescent, incumbent and parallel in repose. Halteres uncovered. Abdomen long, cylindrical, pubescent. Legs slender; *coxæ shorter than the femora*; hind legs long.

Male. Tip of the abdomen obtuse, with 2 short points.

Fem. Tip of the abdomen acute.

The *Cyrtomæ* appear in spring and summer, and inhabit herbage in woods and fields.

1. **spuria,** Fln. d. s. emp. 33. 43 (1815); Ztt.—*atra,* Mg.; Mq. *Atra,* opaca, pilosa, *alis nigricantibus,* halteribus fuscis. Long. $1\frac{1}{2}$–$1\frac{3}{4}$; alar. $3\frac{1}{2}$–3 lin.

Deep black, hairy, not shining. *Wings blackish*; veins black. Halteres dark brown. Abdomen cylindrical, nearly twice the length of the thorax. Legs hairy; hind tibiæ slightly clavate; hind tarsi slender.

Generally distributed. (E. I.)

2. **nigra,** Mg. zw. iv. 3. 2 (1824); Mq.; Ztt. *Nigro-fusca,* opaca, pilosula, antennis nigris, *alis pedibusque fuscis.* Long. $1\frac{1}{2}$–$1\frac{3}{4}$; alar. $2\frac{1}{2}$–3 lin.

Brownish-black, clothed with a few hairs, not shining. Proboscis, palpi, and antennæ black. *Wings brown,* large. Abdomen rather more than twice the length of the thorax. *Legs dark brown,* rather hairy; hind tibiæ dilated; first and second joints of the hind tarsi long, dilated. *Male.* Halteres dark brown. *Fem.* Halteres pale yellow.

Generally distributed. (E. I.)

3. **melæna,** Hal. e. m. i. 158 (1833). *Mas.* Atra, alis cinereis, *femoribus ferrugineis,* tibiis posticis subclavatis. *Fœm.* Nigra, alis sublimpidis, *tibiis posticis gracilibus.* Long. $1\frac{1}{4}$; alar. 3 lin.

Hind tibiæ longer than in the two preceding species. *Male.* Deep black. Wings grey. *Femora ferruginous*; hind tibiæ slightly clavate. *Fem.* Black. Wings almost colourless. *Hind tibiæ very slender.*

Rare. In Mr. Haliday's collection. (I.)

Genus XIV. **LEPTOPEZA.**

LEPTOPEZA, Mq. d. n. (1827); Ztt. *Empis* p., Fln. *Ocydromia* p., Mg.; Ztt.

Corpus parvum, glabriculum, nitidum, subincurvum, molliculum. Color niger aut rufo-testaceus. *Proboscis brevissima.* Antennæ 4-articulatæ; articuli primus et secundus breves; *tertius conicus*; quartus longus, setiformis, *apicalis.* Thorax gibbosus, glaber. Alæ longæ, angustæ; *vena cubitalis simplex; venæ externo-mediæ* 2. Pedes omnes simplices, tibiis anticis muticis; *coxæ femoribus breviores.*

Mas. Plerumque longior, magis pilosus. Abdomen lineare. Anus parum clavatus.

Fœm. Glabricula. Oviductus exsertus, compressus, gladiiformis, arcuatim recurvatus.

Body small, smooth, shining, soft, slightly curved, black or reddish-testaceous. *Proboscis very short.* Antennæ 4-jointed; first and second joints short; *third conical*; fourth long, setiform, *apical.* Thorax gibbous, very smooth. Wings long, rather narrow; *cubital vein simple; externo-medial veins* 2, *arising from the discal areolet.* Halteres clavate. Abdomen cylindrical. Legs slender, without spines or bristles; hind tibiæ slightly clavate; hind metatarsi long, stout; *coxæ shorter than the femora.*

Male. Body generally longer and more hairy than that of the female. Abdomen linear, hardly clavate at the tip.

Fem. Abdomen elongate-fusiform; oviduct exserted.

This genus may be distinguished from *Ocydromia* by the short, oblique, or less perpendicular proboscis, by the thick, porrect, almost cylindrical palpi, by the oblong-conical third joint of the antennæ, by the setiform apical joint, and by the ensiform oviduct of the female. It is like *Ocydromia* in its habits. The structure of the veins is almost similar in both genera, but *Leptopeza* has more often the rudiment of a third externo-medial vein.

1. **ruficollis,** Mg. zw. ii. 353. 3 (1820); Ztt.—*glabricula* β, Fln. Nigra, *thorace rufo-testaceo,* alis sublimpidis, *abdomine subtus testaceo,* pedibus flavis, tibiis posticis apice tarsisque fuscis. Long. 2¼; alar. 4½ lin.

Black. *Thorax reddish-testaceous,* very shining. Wings almost colourless; veins and halteres tawny. *Abdomen testaceous beneath and on each side.* Legs yellow; hind tibiæ towards the tips and tarsi brown.

Rare. In Mr. Haliday's collection. (I.)

2. **flavipes,** Mgle.; Mg. zw. ii. 353. 4 (1820); Mq.; Ztt. Nigra,

alis limpidis, *abdomine piceo,* pedibus flavis, tibiis posticis apice tarsisque obscurioribus. Long. 2; alar. 4½ lin.

Black. Thorax very shining. Wings colourless; veins tawny. Halteres yellow. *Abdomen piceous.* Legs yellow; hind tibiæ towards the tips and tarsi rather darker. Perhaps the male of *L. ruficollis.*

Rare. In Mr. Haliday's collection. (I.)

Genus XV. **OCYDROMIA.**

Ocydromia, Hms.; Mg. zw. ii. 351 (1820); Mq.; Ztt. *Tachydromia* p., Fb. *Empis* p., Fln.

Corpus parvum, glabriculum, nitidum, subincurvum. Color niger aut rufo-testaceus. Oculi rufo-fusci, parum æneo-micantes, in utroque sexu connexi. *Proboscis brevissima,* subocculta. Antennæ 4-articulatæ; *articulus tertius ovatus*; quartus setiformis, *subdorsalis.* Alarum *vena cubitalis simplex; venæ externo-mediæ 2; areola discoidalis una.* Pedes aut omnes simplices, aut postici raro tibiis apicem versus incrassatis; tibiis anticis latere interiore prope basin denticulo minuto semper armatis; *coxæ femoribus breviores.*

Mas. Corpus obscurius, gracilius; anus obtusus.

Fœm. Corpus pallidius, robustius; anus acutior. Oviductus occultus.

Body small, black or reddish-testaceous, smooth, shining, slightly incurved. Head round; epistoma extremely narrow. Eyes large. Ocelli 3, on the crown. Proboscis *very short,* almost horizontal. Palpi small, cylindrical, hairy, obtuse. Antennæ 4-jointed, porrect, shorter than the head, closely approximate at the base, diverging upward; first and second joints almost cylindrical, beset with short bristles; *third joint oval*; fourth setiform, *seated on the third near the tip.* Thorax oval, gibbous, depressed on the hinder part of the back, hardly bristly, without a suture; scutellum narrow. Wings longer than the abdomen, incumbent and parallel in repose, rounded at the tips, finely ciliated, very finely pubescent; *cubital vein simple; externo-medial veins 2; discal areolet one.* Halteres uncovered. Abdomen pubescent, compressed, incurved. Legs simple, slender, pubescent; *coxæ shorter than the femora*; hind legs somewhat longer than the anterior; first joint of the tarsi almost as long as all the 4 following.

Male. Eyes parted by a suture.

Fem. Eyes parted by a very narrow interval.

The *Ocydromiæ* appear from the spring to the autumn, and inhabit meadows, flowers, the leaves of shrubs, and especially woods; they are agile, but their flight is slow.

1. **glabricula,** Fln. d. s. emp. 33. 42 (1815); Mg.; Mq.; Ztt.—*nigripennis,* Fb. *Mas. Æneo- vel purpureo-nigra,* antennis nigris, alis

nigricantibus, abdominis lateribus ventreque fuscis, pedibus fulvis, coxis flavis, tibiis anticis tarsisque fuscis. *Fœm.* Testacea, thorace antico capiteque nigris, alis subfusco-cinereis, *abdomine maculis nigris vittato.* Long. $1\frac{1}{4}$–$1\frac{3}{4}$; alar. 3–4 lin.

Body clothed with very few tawny hairs. Proboscis and antennæ black. Scutellum beset with a few black bristles. Legs tawny, clothed with very short black hairs; tarsi and fore tibiæ brown. *Male. Body æneous or purplish-black.* Wings blackish, very iridescent; veins and halteres black. Abdomen brownish on each side and beneath. Coxæ yellow; posterior tibiæ dark tawny; hind tibiæ long, slightly clavate. *Fem.* Body testaceous. Head and disc of the fore part of the thorax black. Wings very slightly tinged with brownish-grey; veins black, tawny towards the base. Halteres yellow, with pale brown knobs. *Abdomen with a row of black spots.* Posterior tarsi tawny at the base.

Generally distributed. (E. S. I.)

2. **scutellata,** Mg. zw. ii. 354. 5 (1820); Mq.; Ztt. *Nigro-fusca,* antennis nigris, pectore pleuris scutelloque testaceis, *alis fusco-cinereis; Mas.* abdomine maculis fulvis bivittato, pedibus fuscis, coxis flavis, femoribus fulvis; *Fœm. thorace testaceo, disco anteriore nigro-fusco,* tibiis tarsisque posterioribus fulvis. Long. $1\frac{1}{2}$–$1\frac{3}{4}$; alar. $3\frac{1}{2}$–4 lin.

Body blackish-brown, clothed with very few tawny hairs. Head, proboscis, and antennæ black. Thorax beneath, pleuræ, and scutellum testaceous. Wings brownish-grey; veins black, tawny at the base. Halteres tawny. Abdomen blackish-brown, having along each side a row of tawny spots which sometimes form bands. Legs brown, clothed with very short tawny hairs; coxæ yellow; femora tawny. *Fem. Thorax testaceous; disc of the fore part blackish-brown.* Posterior tibiæ and tarsi dark tawny.

Generally distributed. (E. S. I.) Var. *glabriculæ*?

3. **rufipes,** Mg. zw. ii. 353. 2 (1820); Ztt. *Fœm. Testacea,* capite antennisque nigris, *thorace nigro-vittato,* pleuris scutelloque flavis, alis subfuscis, *abdomine maculis nigris vittato,* pedibus fulvis, coxis flavis, tarsis fuscis. Long. $1\frac{3}{4}$; alar. 4 lin.

Testaceous, clothed with very few tawny hairs. Head, proboscis, and antennæ black. *Thorax with a short black stripe.* Pleuræ and scutellum yellow. Wings very slightly tinged with brown; veins black, tawny towards the base. Halteres tawny. *Abdomen with a row of large black spots.* Legs tawny, clothed with very short tawny hairs; hips yellow; tarsi and tips of fore tibiæ brown; posterior tarsi tawny towards the base.

Generally distributed. (E. S. I.)

Genus XVI. **HYBOS.**

HYBOS, Fb. s. a. (1805); Ll.; Mg.; Fln.; Mq.; Ct.; Ahr.; Gr.; Ztt. *Musca* p., L. *Asilus* p., Mbr.; Gm.; Shr.; Fb. *Empis* p., Fb. *Dasypogon* p., Fb. *Stomoxys* p., Fb.

Corpus parvum, nigrum, subpilosum, incurvum, nitidum, firmum. Oculi in utroque sexu conjuncti. *Proboscis porrecta, capite longior.* Antennarum articulus tertius breviter conicus; quartus setiformis, apicalis. Alarum *vena cubitalis simplex*; *venæ externo-mediæ* 2; *areola discoidalis una.* Pedes sæpe flavi; *coxæ femoribus breviores*; femora postica subclavata, subtus spinulosa.

Mas. Anus subclavatus. Femora postica valde incrassata.

Fœm. Anus acutior. Femora postica modice incrassata.

Body black, slender, shining, slightly hairy. Head small, round; face very narrow. Eyes large, dark red, slightly notched internally. Ocelli 3, on a tubercle of the crown. *Proboscis horizontal, longer than the head.* Labrum long, lanceolate, as long as the labium. Lingua setiform, as long as the labrum. Maxillæ rudimentary. Palpi fusiform, pubescent, with a few bristles inside, as long as the labrum, detached from the maxillæ. Labium long, rather stout, tapering. Antennæ 5-jointed, porrect, approximate at the base, diverging upwards; first and second joints cylindrical, somewhat bristly; third oval; fourth very minute; fifth setiform, long, pubescent, bare at the tip. Thorax globose, gibbous, without a suture, somewhat depressed on the hinder part of the back; scutellum lunate, small, narrow. Wings obtuse, very finely pubescent, incumbent and parallel in repose; *cubital vein simple; externo-medial veins* 2; *discal areolet one.* Halteres uncovered. Abdomen with 7 segments, cylindrical, incurved, pubescent. Legs slender; ungues and onychia large; *coxæ shorter than the femora*; hind legs long, with thick and spinose femora; anterior tibiæ beset with bristles; hinder tibiæ stouter and more hairy; hind tarsi shorter than the rest; first joint long, very pubescent beneath.

Male. Head larger. Eyes parted by a suture. Abdomen clavate at the tip. Hind femora much incrassated.

Fem. Head smaller. Eyes parted by a narrow interval. Abdomen more acute at the tip. Hind femora slightly incrassated.

These flies appear in spring and summer in grassy spots, flowers, on the leaves of shrubs, and especially in woods; they feed on small *Diptera.* They move slowly, their flight is heavy, and they often hover in the air.

1. **grossipes,** L. s. n. ii. 988. 59 (1767).—*funebris*, Fb.; Ll.; Fln.; Mg.; Ct.; Mq.; Ztt.—*culiciformis*, Fb.; Gm.; Shr.; Mg. kl.—*clavipes*, Fb.—*pilipes*, Ct.! b. e. 661. Nigra, cinereo-suffusa, *alis cinereis.* Long. 2–2¼; alar. 4½–5 lin.

Black, with a cinereous covering, thinly clothed with black hairs.

Labrum and lingua tawny. Palpi clothed with short black hairs. *Wings grey*; stigma brown. Halteres yellow. Legs clothed with short black hairs, beset with black bristles.

Generally distributed. (E. S. I.)

2. **vitripennis,** Mg. zw. ii. 348. 2 (1820); Ct.; Mq.; Ztt.—*funebris* v., Fln. Niger, cinereo-suffusus, *alis limpidis*, tarsis pedibusque anterioribus nonnunquam fuscis. Long. $1\frac{3}{4}$–2; alar. 4–$4\frac{1}{2}$ lin.

Black, with a cinereous covering, thinly clothed with black hairs. Labrum and lingua tawny. Palpi clothed with very short black hairs. *Wings colourless*; stigma very pale brown. Halteres pale yellow. Legs clothed with short black hairs, beset with black bristles; tarsi and anterior legs often brown.

Generally distributed. (E. S. I.)

3. **femoratus,** Mlr. pr. 2135 (1776).—*flavipes*, Fb.; Mg.; Fln.; Ct.; Mq.; Ztt.; Gr.! ic. pl. 94. f. 6. Niger, cinereo-suffusus, *alis limpidis, pedibus fulvis*, femoribus tibiisque posticis nigris. Long. $1\frac{3}{4}$–2; alar. 4–$4\frac{1}{2}$ lin.

Black, with a cinereous covering, thinly clothed with black hairs. Labrum and lingua tawny. Palpi clothed with very short black hairs. *Wings colourless*; stigma indistinct. Halteres pale yellow. *Legs tawny*; hind femora and hind tibiæ black, beset with black bristles, clothed with rather long whitish hairs.

Generally distributed. (E. S. I.)

4. **fumipennis,** Mg. zw. ii. 319. 4 (1820); Ahr.; Ct. Niger, cinereo-suffusus, *alis subfusco-cinereis, pedibus fulvis*, femoribus tibiisque posticis nigris. Long. 2; alar. $4\frac{1}{2}$ lin.

Black, with a cinereous covering, thinly clothed with black hairs. Labrum and lingua tawny. Palpi clothed with very short black hairs. *Wings pale brownish-grey*; stigma pale brown. Halteres tawny. *Legs tawny*; hind femora and hind tibiæ black, beset with black bristles, clothed with rather long whitish hairs.

Generally distributed. (E. I.)

Genus XVII. **PLATYPALPUS.**

PLATYPALPUS, Mq. s. n. (1827). *Musca* p., Fb. *Empis* p., Fb. *Tachydromia* p., Mg.; Fb.; Fln.; Ztt.

Corpus parvum, sæpe minutissimum, oblongum, glabrum, parum setulosum. Color corporis niger, fuscus, flavus; pictura præter annulos pedum nulla. Caput parvum. Oculi fusci, unicolores, interdum æneo-micantes, in utroque sexu remoti. Proboscis capite brevior. Palpi compressi, squamæformes, incumbentes, apice ciliati. Antennæ 4-articulatæ, capite sæpius breviores; articulus tertius ovatus, acutus,

aut conicus; quartus longus, setiformis. Alæ subdilatatæ; *vena cubitalis simplex; venæ externo-mediæ* 2; *vena subanalis apparens*; areola discoidalis nulla. Pedes cursorii; *coxæ femoribus breviores*; femora anteriora crassa, intermedia subtus spinulosa.

Mas. Anus obtusus.

Fœm. Anus acutus; oviductus bifidus.

Body small, often very minute, oblong, smooth, hardly bristly. Colour black, brown, or yellow; legs most often banded. Head small. Eyes brown, sometimes æneous, remote. Proboscis shorter than the head. Palpi flat, broad, almost conical, ciliated at the tips. Antennæ 4-jointed, generally shorter than the head; third joint oval, acute, or conical; fourth long, setiform. Wings slightly widened; *cubital vein simple; externo-medial veins* 2; *subanal vein apparent; discoidal areolet none.* Legs formed for running; *coxæ shorter than the femora.* Anterior femora thick; intermediate femora generally pectinated beneath.

Male. Tip of the abdomen obtuse.

Fem. Tip of the abdomen acute. Oviduct bifid.

The *Platypalpi* dwell among herbage, and on the leaves of shrubs and of trees, from the spring to the autumn; they are very active, and run with great swiftness. The species may be grouped thus:—

a. Antennæ shorter than the head; palpi pale yellow or white.
  b. Legs for the most part all yellow.
    c. Thorax cinereous or hoary. Species 1–22.
    c c. Thorax black, shining. Species 23, 24.
    c c c. Thorax tawny or yellow. Species 25–31.
  b b. Legs for the most part black or obscure. Species 32–36.
a a. Antennæ longer than the head. Species 37–41.

1. **flavipes,** Fb. e. s. iv. 406. 19 (1794); Ll.; Mg.; Mq.; Ztt. —*vulgaris,* Mg. kl. Cinereus, capite cano, *antennis nigris,* alis limpidis, abdomine nigro, *pedibus flavis, tarsorum articulis apice genubusque posterioribus nigris.* Long. $1\frac{1}{4}$–$1\frac{1}{2}$; alar. $3\frac{1}{2}$–4 lin.

Cinereous. Head hoary, clothed above with black hairs, beneath with white hairs. Eyes red; facets larger on each side than above. Palpi yellow. *Antennæ black,* nearly as long as the head. Wings colourless; veins brown, tawny at the base. Halteres yellow. Abdomen black, shining. *Legs yellow,* clothed with very short black hairs; tips of the tibiæ darker; *hinder knees and tips of the joints of the tarsi black*; middle femora thick; middle tibiæ curved, tips of their apical spines black.

Generally distributed. (E. S. I.)

2. **maculipes,** Mg. d. iii. 79. 27 (1822); Ztt. Cinereus, *antennis nigris,* alis limpidis, abdomine nigro, *segmentorum suturis canis, pedibus fulvis,* tarsorum articulis apice nigris. Long. $1\frac{1}{4}$; alar. $3\frac{1}{2}$ lin.

Grey, beset with a few black bristles. Palpi yellow. Antennæ black; third joint broad, conical, a little shorter than the first and the second; fourth much longer than the third. Wings colourless; stigma brown, long, narrow; veins brown, tawny at the base. Halteres pale yellow. Abdomen black, shining; *sutures of the segments hoary.* Legs tawny, stout; tips of the joints of the tarsi black; middle femora very thick; middle tibiæ curved.

Generally distributed. (E.)

3. **agilis,** Mg. zw. iii. 80. 29 (1822); Ztt. Cinereus, *capite antico albo, antennis nigris,* alis limpidis, abdomine nigro, *pedibus fulvis, tarsis fuscis basi fulvis, femoribus anterioribus fusco-vittatis, femoribus posticis fuscis.* Long. $1\frac{1}{4}$–$1\frac{1}{2}$; alar. $3\frac{1}{2}$–4 lin.

Grey. *Head shining white in front.* Palpi yellow. Antennæ black; third joint conical, rather short; fourth much longer than all the preceding. Wings colourless; veins brown, tawny towards the base; third and fourth longitudinal veins very slightly curved towards each other. Halteres yellow. Abdomen black, shining. *Legs tawny; tarsi brown, tawny towards the base; anterior femora slightly striped with brown; hind femora mostly brown*; fore femora nearly as thick as the incrassated middle femora.

Not very common. (E.)

4. **bicolor,** Fb. s. a. 143. 2 (1804); Mg.; Mq.; Ztt.—*flavipes,* Fln. *Cervinus,* capite cano antice albo, *antennis fuscis basi flavis,* pectore cano, alis limpidis, *abdomine nigro, pedibus flavis,* tarsorum articulis apice nigris. Long. 1–$1\frac{1}{4}$; alar. 3–$3\frac{1}{2}$ lin.

Head hoary, white and shining in front. Palpi yellow. *Antennæ brown; first and second joints yellow*; third short; fourth black, slightly pubescent. *Thorax fawn-colour,* clothed with pale yellow hairs, hoary beneath. Wings colourless; veins yellow, tawny towards the tips. Halteres pale yellow. *Abdomen black,* shining, with a triangular cinereous spot on each side of every segment. *Legs yellow*; tips of the joints of the tarsi black; middle femora thick; middle tibiæ curved; tips of their apical spines black.

Generally distributed. (E. S.)

5. **pallidiventris,** Mg. zw. iii. 82. 35 (1822); Mq.; Ztt.—*flavipes* var. *minor,* Fln.—Cinereus, capite cano antice albo, *antennis fuscis basi fulvis,* pectore cano, alis limpidis, *abdomine nigro subtus fulvo,* pedibus flavis, tarsorum articulis apice fuscis. Long. $1\frac{1}{3}$; alar. 3 lin.

Cinereous. Head hoary, shining white in front. Palpi yellow. *Antennæ brown,* slender, rather short; *first and second joints tawny.* Thorax hoary beneath. Wings colourless; veins and halteres yellow; third and fourth longitudinal veins slightly curved towards each other. *Abdomen black,* shining, *tawny beneath.* Legs yellow; tips of the joints of the tarsi brown; middle femora thick; middle tibiæ slightly curved, tibiæ rather thick.

Rare. In Mr. Saunders's collection. (E.)

6. **albicornis,** Ztt. d. s. i. 279. 9 (1842). *Canus,* capite antico albo, *antennis alis halteribusque albis,* abdomine nigro, pedibus flavis, tarsorum articulis apice obscurioribus. Long. $1\frac{1}{4}$–$1\frac{1}{2}$; alar. $3\frac{1}{2}$ lin.

Hoary. Head shining white in front, clothed behind with white hairs. Palpi white. *Antennæ white*; third joint conical, a little shorter than the first and the second; fourth darker and longer than the third. *Wings whitish*; veins pale yellow; third and fourth longitudinal veins nearly parallel. *Halteres white.* Abdomen black, shining. Legs pale yellow; tips of the joints of the tarsi darker; tip of the fifth joint blackish; middle femora rather thick; middle tibiæ slightly curved; fore femora nearly as thick as the middle femora.

Not rare. (E.)

7. **cursitans,** Fb. s. i. 11. 447. 60 (1781); Mg.; Mq.; Ztt. Cinereus, capite cano antice albo, *antennis nigris basi luteis, alis subfulvis, abdomine subtus fulvo, pedibus fulvis,* tarsorum articulis apice nigris. Long. $1\frac{1}{3}$–2; alar. $4\frac{1}{2}$–5 lin.

Cinereous, thinly clothed with pale yellow hairs. Head hoary, shining, white in front, clothed behind with whitish hairs. Palpi yellow. *Antennæ black,* pubescent; *first and second joints luteous*; third conical, a little longer than the first and the second; fourth very much longer than all the preceding. Thorax grey beneath. *Wings slightly tawny*; veins tawny; fourth longitudinal vein slightly curved, not parallel with the third. Halteres yellow. *Abdomen tawny beneath. Legs tawny,* clothed with tawny hairs, and with a few black bristles; tips of the joints of the tarsi black; middle femora thick; middle tibiæ curved; fore femora rather thick; fore tibiæ slightly curved.

Generally distributed. (E.)

8. **calceatus,** Mg. zw. iii. 87. 45 (1822); Mq.; Ztt.—*flavipes* var. γ, Fln. Cinereus, capite cano antice albo, *antennis nigris basi fulvis,* alis limpidis, abdomine nigro, *pedibus flavis, tarsis apice nigris.* Long. $\frac{3}{4}$–1; alar. $1\frac{3}{4}$–$2\frac{1}{4}$ lin.

Cinereous. Head hoary, shining white in front. Palpi white. *Antennæ black; first and second joints tawny*; third conical, a little shorter than the first and the second; fourth as long as the three preceding. Thorax beset with a few black bristles. Wings colourless; veins and halteres yellow; third and fourth longitudinal veins nearly parallel. Abdomen black, shining. *Legs yellow*; tips of the tarsi black; middle femora thick; middle tibiæ curved.

Generally distributed. (E.)

9. **ecalceatus,** Ztt. i. l. 550. 6 (1839). Cinereus, capite cano antice albo, *antennis flavis apice nigris, alis limpidis,* abdomine nigro, *pedibus flavis.* Long. 1; alar. $2\frac{1}{4}$ lin.

Cinereous. Head hoary, shining white in front. Palpi white.

Antennæ yellow; third joint conical, as long as the first and the second; *fourth black*, longer than the third. *Wings colourless*; veins and halteres yellow; third and fourth longitudinal veins nearly parallel. Abdomen black, shining. *Legs yellow*; middle femora thick; middle tibiæ curved.

Not common. (E.)

10. **articulatus,** Mq. d. n. 98. 10 (1827); Mg.; Ztt. Cinereus, capite cano antice albo, *antennis nigris basi fulvis*, pectore cano, alis limpidis, abdomine nigro, *pedibus flavis, tarsorum articulis apice nigris.* Long. $1\frac{1}{4}$–$1\frac{1}{2}$; alar. $2\frac{1}{2}$–3 lin.

Cinereous. Head hoary, shining white in front, clothed behind with white hairs. Palpi white. *Antennæ black*, pubescent; *first and second joints tawny*; third conical, longer than the first and the second; fourth a little longer than the third. Thorax beset with a few yellow bristles, hoary beneath. Wings colourless; veins and halteres yellow; third and fourth longitudinal veins nearly parallel. Abdomen black, shining. *Legs yellow; tips of the joints of the tarsi black*; middle femora thick; middle tibiæ curved.

Generally distributed. (E.)

11. **candicans,** Fln. d. s. emp. 10. 11 (1815); Mg.; Ztt.—*fasciata*? Mg. Cinereus, *antennis nigris basi fulvis*, alis limpidis, *abdomine nigro, segmentis anterioribus utrinque cinereis, pedibus flavis.* Long. $1\frac{1}{4}$–$1\frac{1}{2}$; alar. $2\frac{1}{2}$–3 lin.

Cinereous. Palpi white. *Antennæ black; first and second joints pale yellow*; third joint conical, longer than the first and the second; fourth much longer than the third. Wings colourless; veins and halteres pale yellow; fourth longitudinal vein slightly curved, not parallel to the third. *Abdomen black*, shining; *anterior segments cinereous on each side. Legs pale yellow*; tips of the tarsi brown; middle femora thick; middle tibiæ slightly curved.

Not rare. (E.)

12. **fulvipes,** Mgrle.; Mg. zw. iii. 78. 25 (1822). Cinereus, capite cano antice albo, *antennis nigris, alis sublimpidis ad costam subfulvis, abdomine nigro*, pedibus fulvis, tarsorum articulis apice fuscis. Long. $1\frac{1}{2}$; alar. 4 lin.

Cinereous. Head hoary, shining white in front. Palpi yellow. *Antennæ black*; third joint conical, a little longer than the first and the second; fourth much longer than the third. *Wings almost colourless, with a slight tawny tinge along the fore border*; veins tawny, brown towards the tips; third and fourth longitudinal veins slightly converging. *Abdomen black*, shining. Legs tawny; tips of the joints of the tarsi brown; middle femora thick, more or less brown; middle tibiæ curved.

Generally distributed. (E.)

13. **infuscatus,** Mq.; Mg. d. iii. 84. 39 (1822); Mq. Cinereus, capite cano antice albo, *antennis nigris basi fulvis, alis fusco-cinereis ad costam flavis,* abdomine nigro, pedibus fulvis, tarsorum articulis apice nigris. Long. 1–1¼; alar. 2½–3 lin.

Cinereous. Head hoary, shining white in front, clothed with white hairs behind. Palpi yellow. *Antennæ black; first and second joints tawny*; third tapering, much longer than the first and the second; fourth much longer than the third. *Wings brownish-grey, yellow along the fore border for two-thirds of the length from the base*; veins black, yellow along the fore border. Halteres yellowish-white. Abdomen black, shining. Legs tawny; tips of the joints of the tarsi black; middle femora thick; middle tibiæ curved.

Generally distributed. (E.)

14. **varius,** n. Cinereus, capite albo, palpis flavo-albis, *antennis nigris basi flavis,* pectore albido, alis limpidis, *abdomine fulvo maculis fuscis bivittato,* pedibus flavis. Long. 1¾; alar. 4 lin.

Hoary. Head white. Palpi yellowish-white. *Antennæ black; first and second joints yellow*; third tapering, much longer than the first and the second; fourth as long as all the preceding. Thorax beset with a few yellow bristles, whitish beneath. Wings colourless; veins pale yellow; fourth longitudinal vein much curved towards the third. Halteres yellowish-white. *Abdomen tawny, with 2 rows of brown spots, which are sometimes united and cover the whole back.* Legs yellow; middle femora thick; middle tibiæ slightly curved; fore femora a little thicker than the hind femora.

Not common. In the collection of the Entomological Club. (E.)

15. **fascipes,** Mg. zw. iii. 78. 22 (1822). Cinereus, *antennis nigris,* alis limpidis, abdomine nigro, pedibus flavis, *femoribus intermediis fusco-cinctis, femoribus posticis fulvo-cinctis,* tibiis apice nonnunquam fulvis, tarsorum articulis apice nigris. Long. 1¼; alar. 3½ lin.

Grey. Palpi yellow. *Antennæ black*; third joint lanceolate, longer than the first and the second; fourth as long as the third. Wings colourless; veins brown, yellow towards the base; fourth longitudinal vein very slightly curved towards the third. Halteres yellow. Abdomen black, shining. Legs yellow; *a broad brown band on each of the very thick middle femora, and a narrow tawny band on each of the hind femora*; fore femora thick; tips of the tibiæ sometimes tawny; middle tibiæ curved; tips of the joints of the tarsi black.

Generally distributed. (E.)

16. **fasciatus,** Mg.! zw. iii. 86. 43. pl. 23. f. 22 (1822). *Cervinus,* capite cano antice albo, *antennis nigris basi fulvis,* alis limpidis, *abdomine cinereo nigro-fasciato, pedibus fulvis,* tarsorum articulis apice fuscis. Long. 2; alar. 4 lin.

Fawn-colour. Head hoary, shining white in front, clothed with

white hairs behind. Palpi tawny. *Antennæ black*, pubescent; *first and second joints tawny*; third conical, a little longer than the first and the second; fourth much longer than all the preceding joints. Wings colourless; veins and halteres yellow; third and fourth longitudinal veins slightly converging. *Abdomen cinereous, with a more or less interrupted shining black stripe along the back. Legs tawny*; tips of the joints of the tarsi brown; middle femora thick; middle tibiæ curved; fore femora nearly as thick as the middle femora.

Rare. (E. I.)

17. **laticinctus,** n. Cinereus, capite antico albo, *antennis nigris basi fulvis, alis sublimpidis*, abdomine nigro, *pedibus fulvis, femoribus fusco-cinctis*, tarsis apice fuscis. Long. $1\frac{3}{4}$; alar. 4 lin.

Cinereous. Head shining white in front. Palpi yellow. *Antennæ black*, pubescent; *first and second joints dark tawny*; third conical, a little longer than the first and the second; fourth much longer than the third. Thorax beset with a few tawny bristles, grey beneath. *Wings nearly colourless*; veins brown, yellow towards the base; third and fourth longitudinal veins slightly converging. Halteres pale yellow. Abdomen black, shining. *Legs tawny*, stout; tips of the tarsi brown; *femora brown, tawny at the base and at the tips*; middle femora thick; middle tibiæ hardly curved; fore femora rather thick.

Rare. In the collection of the Entomological Club. (E.)

18. **dichroa,** Mg. zw. iii. 83. 36 (1822). Cinereus, *antennis nigris*, alis limpidis, halteribus flavis, *abdomine nigro, pedibus fulvis*, tarsorum articulis apice genubusque intermediis nigris. Long. $1\frac{1}{4}$; alar. $3\frac{1}{4}$ lin.

Grey. Palpi yellow. *Antennæ black*; third joint long-conical, longer than the first and the second; fourth longer than the third. Thorax beset with a few black bristles. Wings colourless; veins black, tawny towards the base; third and fourth longitudinal veins nearly parallel. Halteres yellow. *Abdomen black*, shining. *Legs tawny*; tips of the joints of the tarsi black; middle legs with thick femora, black knees, and curved tibiæ.

Not rare. (E.)

19. **divisus,** n. Cinereus, capite cano antice albo, *antennis flavis apice nigris, alis subflavis apice subcinereis*, abdomine nigro, *pedibus flavis*. Long. $1\frac{1}{4}$; alar. 3 lin.

Cinereous. Head hoary, shining white in front, clothed behind with white hairs. *Palpi white. Antennæ yellow; third joint black towards the tip*, conical, longer than the first and the second; fourth black, longer than the third. *Wings tinged with pale yellow, slightly grey at the tips*; veins and halteres pale yellow; *third and fourth longitudinal veins nearly parallel*. Abdomen black, shining. *Legs yellow*; tips of the tarsi black; middle femora thick; middle tibiæ curved.

Rare. In the collection of the Entomological Club. (E.)

20. **commiles,** n. Cinereus, *antennis nigris, alis sublimpidis, abdomine nigro subtus fulvo,* pedibus fulvis, tarsis fuscis basi fulvis, genubus posterioribus fuscis. Long. 1¼–1½; alar. 3½–4 lin.

Grey. Head clothed above with black hairs, beneath with white hairs. Palpi yellow. *Antennæ black,* pubescent, nearly as long as the head; fourth joint long, slightly pubescent. *Wings nearly colourless*; veins brown, tawny at the base. Halteres yellow. *Abdomen* clothed with short whitish hairs, *black* and shining *above, tawny beneath.* Legs tawny, clothed with very short pale yellow hairs; tarsi brown; first joint tawny, with a brown tip; second joint tawny at the base; tips of the hind tibiæ dark tawny; hinder knees brown.

Rare. In the collection of the Entomological Club. (E.)

21. **compungens,** n. Cinereus, capite cano, *antennis fuscis apice nigris,* alis limpidis, *abdomine nigro basi subtus fulvo, pedibus flavis.* Long. 1½; alar. 3 lin.

Cinereous, clothed with pale yellow hairs. Head hoary. Palpi yellow. Antennæ brown; third joint as long as the first and the second; fourth black, longer than all the preceding. Wings colourless; veins brown. Halteres yellow. *Abdomen black,* shining, *tawny towards the base beneath. Legs yellow*; tips of the tarsi black; middle femora very slightly thickened; middle tibiæ very slightly curved.

Rare. In the collection of the Entomological Club. (E.)

22. **robustus,** Wlk. e. m. iv. 228 (1837). Cinereus, capite cano, palpis albidis, *antennis nigris basi fulvis,* alis limpidis, abdomine nigro, *pedibus fulvis.* Long. 1; alar. 2 lin.

Cinereous, rather stout. Head hoary. Palpi whitish. *Antennæ black; first and second joints tawny*; third tapering, longer than the first and the second; fourth much longer than the third. Wings colourless; veins and halteres yellow; third and fourth longitudinal veins very slightly converging. Abdomen black, shining. *Legs tawny,* stout; middle femora very thick; middle tibiæ curved; fore femora thick.

Rare. In the collection of the Entomological Club. (E.)

23. **ciliaris,** Fln. d. s. emp. 33. 1, 2 (1815); Mg.; Ztt. Niger, *thoracis lateribus canis,* alis sublimpidis, halteribus albis, *pedibus flavis.* Long. 1–1½; alar. 3–4 lin.

Black, shining, slender. Palpi pale yellow. Antennæ pubescent; third joint tapering, longer than the first and the second; fourth longer than the third. *Thorax hoary on each side.* Wings nearly colourless; veins brown, tawny towards the base; second longitudinal vein nearly straight; third and fourth almost parallel. Halteres white. *Legs yellow*; tips of the tarsi black; middle femora very little thicker than the other femora; middle tibiæ very slightly curved.

Generally distributed. (E. S.)

24. **mundus,** Wlk. e. m. iv. 228 (1837). Niger, palpis flavis, alis limpidis, *pedibus fulvis, femoribus posterioribus nigris,* tarsis apice fuscis. Long. $1\frac{1}{4}$; alar. 2 lin.

Black, shining. Proboscis rather long. Palpi yellow. Third joint of the antennæ short-conical, broader but not longer than the first and the second; fourth longer than all the preceding joints. Wings colourless; veins brown, tawny towards the base; second longitudinal vein almost straight; third and fourth nearly parallel. Halteres pale yellow. *Legs tawny; posterior femora black*; middle femora thick; middle tibiæ curved; tips of the tarsi pale brown.

Rare. In the collection of the Ent. Club. (E.)

25. **luteus,** Mq.; Fln. d. s. emp. 10. 10 (1815); Mg.; Mq.; Ztt. Luteus vel ferrugineus, antennis fuscis basi flavis, *alis limpidis, venis nigris,* pedibus fulvis, tarsorum articulis apice obscurioribus. Long. $1\frac{1}{2}$–2; alar. 3–$4\frac{1}{2}$ lin.

Luteous or ferruginous, stout, smooth, shining. Head yellow. Proboscis luteous. Palpi yellow. Antennæ brown; first and second joints yellow; third conical, a little longer than the first and the second; *fourth black, pubescent, much longer than all the preceding joints. Wings colourless; veins black,* tawny towards the base. Halteres tawny. Legs tawny; tips of the joints of the tarsi darker; middle femora thick; middle tibiæ curved.

Generally distributed. (E. S. I.)

26. **glaber,** Mg. zw. iii. 89. 52 (1822); Ztt.? Luteus, capite cano, antennis fuscis basi flavis, *alis limpidis, venis fulvis,* pedibus flavis. Long. $1\frac{1}{4}$; alar. 3 lin.

Pale luteous, smooth, shining. Head hoary. Proboscis tawny, with a black tip. Palpi whitish. Antennæ brown; first and second joints pale yellow; third conical, a little longer than the first and the second; fourth pubescent, a little longer than the third. *Wings colourless; veins tawny*; third and fourth longitudinal veins parallel. Halteres yellow. Legs yellow; tips of the tarsi black; middle femora a little thickened; middle tibiæ slightly curved. This species does not quite agree with Zetterstedt's *P. glaber,* whose middle femora are described as being very thick.

Rare. In the collection of the Ent. Club. (E.)

27. **pectoralis,** Fln. d. s. emp. 9. 8 (1815); Ztt.—*gilvipes,* Mg. Luteus, capite cinereo, antennis nigris, *thorace nigro-vittato, alis subcinereis, stigmate nigro, abdomine fusco vel nigro subtus nonnunquam fulvo,* pedibus fulvis. Long. $1\frac{1}{4}$–$1\frac{1}{2}$; alar. 3–$3\frac{1}{2}$ lin.

Luteous, smooth, shining. Head grey. Proboscis black. Palpi whitish. Antennæ black; third joint conical, as long as the first and the second; fourth pubescent, as long as all the preceding joints. *Thorax with a black stripe. Wings slightly grey; stigma black,* long and narrow; veins black, tawny towards the base. Halteres tawny.

Abdomen brown or black, sometimes tawny beneath. Legs tawny; tips of the tarsi black; middle femora thick; middle tibiæ curved.

Generally distributed. (E. I.)

28. **stramineipes,** Ztt. d. s. i. 296. 29 (1842).—*pectoralis,* Mg.; Mq. Luteus, capite cinereo, antennis nigris, *thorace nigro-vittato, alis limpidis, stigmate flavo, abdomine nigro,* pedibus fulvis. Long. 1¼; alar. 3 lin.

Luteous, smooth, shining. Head grey. Proboscis black. Palpi whitish. Antennæ black; third joint conical, a little shorter than the first and the second; fourth pubescent, longer than all the preceding. *Thorax with a black stripe. Wings colourless; stigma yellow,* long and narrow; veins black, tawny towards the base. Halteres tawny. *Abdomen black,* sometimes tawny towards the tip. Legs tawny; tips of the tarsi brown; middle femora thick; middle tibiæ curved.

Not rare. (E. I.)

29. **flavipennis,** n. Luteus, *capite cano antice argenteo,* antennis fuscis basi fulvis, *alis flavescentibus,* pedibus fulvis. Long. 1¼; alar. 3 lin.

Luteous. *Head hoary, silvery-white in front.* Proboscis tawny, with a black tip. Palpi pale yellow. Antennæ brown; first and second joints tawny; third conical, as long as the first and the second; fourth black, pubescent, longer than all the preceding. *Wings yellowish,* especially along the fore borders; veins and halteres yellow; third and fourth longitudinal veins parallel. Legs tawny; tips of the tarsi black; middle femora thick; middle tibiæ curved.

Rare. In the collection of the Ent. Club. (E.)

30. **pulchellus,** n. Luteus, antennis nigris basi fulvis, *thorace nigro-vittato,* alis sublimpidis, *abdomine nigro cano-quadrivittato,* pedibus fulvis. Long. 1¼; alar. 2½ lin.

Luteous. Head and proboscis black. Palpi whitish. Antennæ black; first and second joints dark tawny; third conical, as long as the first and the second; fourth very much longer than all the preceding joints. *Thorax with a broad black stripe on the back, partly black beneath.* Wings nearly colourless; veins brown, pale yellow towards the base; fourth longitudinal vein very slightly inclined towards the third. Halteres yellowish-white. *Abdomen black, with four broad hoary bands.* Legs pale tawny; tips of the tarsi brown; middle femora thick; middle tibiæ curved; fore femora rather slender.

Rare. In the collection of the Ent. Club. (E.)

31. **formalis,** n. *Fulvus,* antennis apice nigris, *alis limpidissimis, pedibus flavis.* Long. 1¼; alar. 3 lin.

Tawny, slender. Proboscis with a black tip. Palpi pale yellow. Antennæ tawny; third joint brown towards the tip, as long as the first and the second; fourth black, pubescent, as long as all the pre-

ceding. *Wings quite colourless, very transparent*; veins black, yellow towards the base. Halteres yellow. *Legs yellow*; tips of the tarsi brown; middle femora thick; middle tibiæ curved.

Rare. In the collection of the Ent. Club. (E.)

32. **annulatus,** Fln. emp. 7. 2 (1815); Mg.; Mq.; Ztt. *Cinereus,* capite cano antice albo, antennis nigris basi fulvis, pectore cano, alis limpidis, abdomine nigro, *pedibus fulvis, femoribus tibiis apice tarsorumque articulis plerumque apice nigris.* Long. $1\frac{1}{4}$–$1\frac{1}{2}$; alar. 3–$3\frac{1}{3}$ lin.

Cinereous. Head hoary, clothed behind with white hairs; epistoma shining white. Proboscis black. Palpi yellow. Antennæ black, pubescent; first and second joints tawny; third conical, a little longer than the first and the second; fourth longer than all the preceding joints. Thorax hoary beneath. Wings colourless; veins yellow, brown towards the tips; fourth longitudinal vein inclined towards the third. Halteres yellow. Abdomen black, shining. *Legs tawny; anterior femora mostly black; hind femora slightly tinged with black, sometimes quite black*; middle femora very thick; middle tibiæ curved; *tips of the hind tibiæ and of the joints of the tarsi black, the latter, especially the hind pair, sometimes all black excepting the base. Male.* Fore femora and fore tibiæ thick; fore tibiæ black at the tips, sometimes all black excepting the base.

Generally distributed. (E. S. I.)

33. **minutus,** Mg. zw. iii. 76. 20 (1822); Mq.; Ztt.—*annulatus* var. β, Fln. *Niger,* capite thoracis lateribus pectoreque canis, alis limpidis, *pedibus fulvis, femoribus nigro-cinctis, tibiis posterioribus basi apiceque nigris, tarsis flavis nigro-cinctis.* Long. 1–$1\frac{1}{4}$; alar. 2–$2\frac{1}{2}$ lin.

Black, shining. Head hoary. Palpi yellow. Third joint of the antennæ conical, nearly as long as the first and the second; fourth as long as all the preceding. Thorax hoary on each side and beneath. Wings colourless; veins black, yellow at the base; third and fourth longitudinal veins very slightly converging towards the tips. Halteres tawny; *femora black, tawny at the base and at the tips*; middle femora thick; fore femora rather thick; *tibiæ tawny; posterior tibiæ black at the base and at the tips*; middle tibiæ curved, sometimes black; *tarsi yellow; tips of the joints black. Male.* Fore tibiæ thick.

Generally distributed. (E. I.)

34. **castanipes**? Mg. zw. iii. 79. 26 (1822). *Cinereus,* antennis nigris, alis limpidis, abdomine *pedibusque nigris, tibiis posterioribus fuscis, tarsis basi tibiisque anticis fulvis.* Long. $1\frac{1}{4}$; alar. $2\frac{1}{3}$ lin.

Grey. Proboscis black. Palpi yellow. Antennæ black; third joint conical, as long as the first and the second; fourth a little longer than the third. Wings colourless; veins black, tawny at the base; third and fourth longitudinal veins slightly inclined towards each other.

Halteres yellow. Abdomen black, shining. *Legs black; posterior femora* thick; *posterior tibiæ brown*; middle tibiæ slightly curved; *fore tibiæ tawny; tarsi tawny at the base.*

Rare. In the collection of the Ent. Club. (E.)

35. **exiguus**? Mg. zw. iii. 81. 31 (1822). *Niger*, palpis flavis, *thorace subcinereo*, alis limpidis, halteribus albis, *pedibus fulvis, femoribus nigris, tibiis posticis apice fuscis, tarsis basi fulvis.* Long. $\frac{3}{4}$; alar. 2 lin.

Black, shining. Palpi yellow. Third joint of the antennæ conical, a little longer than the first and the second; fourth much longer than the third. *Thorax slightly grey. Wings colourless*; veins brown, tawny towards the base; third and fourth longitudinal veins almost parallel. Halteres white. *Legs tawny; femora black*; middle femora thick; middle tibiæ slightly curved; *tips of the hind tibiæ brown; tarsi black, tawny towards the base.* This may be distinct from Meigen's *P. exiguus*, whose tarsi are ferruginous, with black tips to the joints.

Rare. In the collection of the Ent. Club. (E.)

36. **dubius,** n. *Cinereus*, capite pectoreque canis, antennis nigris, alis limpidis, halteribus albis, abdomine *pedibusque nigris, tibiis anticis basi genubusque anterioribus fulvis, tarsorum anticorum articulis basi flavis.* Long. $1\frac{1}{2}$; alar. $3\frac{1}{2}$ lin.

Grey. Head hoary. Palpi yellow. Antennæ black; third joint conical, longer than the first and second; fourth much longer than the third. Thorax hoary beneath. Wings colourless; veins brown, tawny towards the base; fourth longitudinal vein slightly inclined towards the third. Halteres white. Abdomen black, shining. *Legs black*; middle femora thick; fore femora rather thick; *anterior knees tawny*; middle tibiæ slightly curved; *fore tibiæ tawny at the base; joints of the fore tarsi yellow at the base.*

Rare. In the collection of the Ent. Club. (E.)

37. **pallipes,** Fln. d. s. emp. 8. 6 (1815); Mg.; Ztt. *Canus*, antennis nigris, alis limpidis, halteribus flavis, abdomine nigro, *pedibus flavis.* Long. 1; alar. 3 lin.

Hoary. Proboscis black. Palpi yellow. Antennæ black; third joint tapering, longer than the first and the second; fourth longer than the third. Abdomen black, shining. Wings colourless; veins and halteres yellow; third and fourth longitudinal veins nearly parallel. Abdomen black, shining. *Legs pale yellow*; middle femora thick; middle tibiæ slightly curved.

Not rare. (E. S.)

38. **comptus,** Wlk. e. m. iv. 228 (1837).—*stigmatellus*, Ztt. d. s. i. 306. 41.—*pallipes*, var. *a*, Ztt. i. l. 553. 16. *Niger*, palpis flavis, alis limpidis, *pedibus fulvis, femoribus posterioribus tibiisque posticis apice tibiis anticis tarsisque nigris.* Long. 1–$1\frac{1}{4}$; alar. $2\frac{1}{2}$–3 lin.

Black, smooth, shining. Palpi yellow. Antennæ long; second joint a little longer than the first; third linear, about twice the length of the first and the second; fourth much shorter than the third. Wings colourless; veins black, tawny at the base; third and fourth longitudinal veins almost parallel. Halteres pale yellow, black towards the base. *Legs tawny; femora compressed; tips of the posterior femora and of the hind tibiæ black; middle femora very broad;* middle tibiæ curved; *fore tibiæ black; tarsi black, tawny towards the base. Male.* Antennæ longer than those of the female.

Generally distributed. (E. S. I.)

39. **nigritarsis,** Fln. d. s. emp. 34. 1, 2 (1815); Mg.; Ztt. *Niger, alis subcinereis, pedibus fulvis, femoribus posticis apice tibiis anticis tarsisque nigris.* Long. $\frac{2}{3}$–$\frac{3}{4}$; alar. $1\frac{1}{2}$–2 lin.

Black, shining. Palpi yellow. Antennæ slender; fourth joint rather short. *Wings very slightly tinged with grey*; veins black; third and fourth longitudinal veins almost parallel. Halteres yellow. *Legs tawny; tarsi, fore tibiæ, and tips of the hind femora black; posterior tarsi tawny at the base*; middle femora thick; middle tibiæ curved.

Not rare. (E. I.)

40. **dissimilis,** Fln. d. s. emp. 9. 9 (1815); Mg.; Ztt. *Cinereus,* capite cano antice albo, *antennis fuscis,* alis limpidis, *abdomine* nigro *basi et subtus fulvo, pedibus flavis, tarsorum articulis apice nigris.* Long. $1\frac{1}{4}$; alar. 3 lin.

Cinereous. Head hoary, shining white in front. Proboscis black. Palpi yellow. *Antennæ brown.* Wings colourless; veins and halteres yellow; third and fourth longitudinal veins nearly parallel. *Abdomen* black, shining, *tawny beneath and towards the base. Legs yellow; tips of the joints of the tarsi black;* middle *femora a little thicker than the fore pair*; middle tibiæ slightly curved; fore femora rather thick.

Rare. In the collection of the Ent. Club. (E.)

41. **longicornis,** Mg. zw. iii. 73. 12. pl. 23. f. 17 (1822). *Canus,* antennis nigris, alis limpidis, halteribus flavo-albis, abdomine nigro, *pedibus fulvis, tarsorum articulis apice fuscis.* Long. $1\frac{1}{4}$; alar. $2\frac{1}{2}$–3 lin.

Hoary, clothed with pale yellow hairs. Proboscis black. Palpi yellow. Antennæ black; third joint pubescent, linear, conical at the tip, longer than the first and the second; fourth half the length of the third. Wings colourless; veins brown, yellow at the base; third and fourth longitudinal veins almost parallel. Halteres yellowish-white. Abdomen black, shining. *Legs pale tawny,* pubescent; *tips of the joints of the tarsi pale brown*; middle femora very slightly thickened; middle tibiæ very slightly curved.

Generally distributed. (E. I.)

Genus XVIII. **ELAPHROPEZA.**

ELAPHROPEZA, Mq. d. n. (1827); Ztt. *Tachydromia* p., Fln. *Hemerodromia* p., Mg.

Corpus minutum, oblongum, glabrum, parum setulosum. Color luteus. Oculi fere connexi. Proboscis brevis, verticalis. *Palpi lati, proboscide breviores.* Antennæ 4-articulatæ; *articulus tertius longus, conicus*; quartus setiformis. Alæ sublatiores; *vena cubitalis simplex; venæ externo-mediæ 2; areola discoidalis et vena subanalis nullæ; areola præbrachialis pobrachiali multo brevior.* Pedes simplices, validi; *coxæ femoribus breviores.*

Mas. Anus obtusus.

Fœm. Anus acutus.

Body minute, oblong, smooth, shining, luteous. Head globose. Eyes almost connected beneath and above. Proboscis short, perpendicular. Palpi *broad, shorter than the proboscis.* Antennæ 4-jointed; first and second joints short; third *long, conical,* much longer than the first and the second; fourth setiform, a little longer than third. Wings rather broad; *cubital vein simple; externo-medial veins 2; discoidal areolet and subanal vein none; præbrachial areolet much shorter than the pobrachial*; longitudinal veins simple; second short; third and fourth very slightly diverging from each other; fifth slightly curved to the hind border. Legs simple, slender; *coxæ shorter than the femora.*

Male. Tip of the abdomen obtuse.

Fem. Tip of the abdomen acute.

Elaphropeza and *Platypalpus* seem to be alike in habit.

1. **ephippiata,** Fln. d. s. emp. ii. 14 (1815); Mg.; Ztt. Lutea, capite nigro, antennis fuscis basi flavis, thoracis vittis duabus scutelloque nigris, alis limpidis, abdomine nigro, pedibus flavis. Long. 1; alar. 2 lin.

Luteous, smooth, shining, thinly clothed with very short black hairs, beset with a few black bristles. Head black. Proboscis yellow, with a brown tip. Palpi yellow. Antennæ brown; first and second joints yellow; third yellow towards the base. Thorax with 2 broad short black stripes; scutellum black. Wings colourless; veins tawny, yellow towards the base. Halteres yellow. Abdomen black. Legs yellow; tips of the tarsi pale brown.

Generally distributed; appears in summer on herbage and on the leaves of shrubs. (E. I.)

Genus XIX. **DRAPETIS.**

DRAPETIS, Mg. zw. iii. 91 (1822); Mq.; Hal.; Ct.; Ztt. *Tachydromia* p., Fln.; Mg.

Corpus minutissimum, atrum, oblongo-ovatum, nitidum, glabrum. Oculi hirsutuli, in utroque sexu parum remoti. Proboscis verticalis. *Palpi lati*, compressi, *proboscide breviores.* Antennæ 4-articulatæ, capite breviores, ascendentes; articulus tertius *brevi-ovatus vel rotundatus*; quartus longus, setiformis. Thorax gibbus, non lobatus. Alæ sublatæ; *vena cubitalis simplex; venæ externo-mediæ* 2; areola *discoidalis et vena subanalis nullæ; areola præbrachialis pobrachiali multo brevior*; venæ longitudinales simplices; secunda brevis, incurva; quinta in marginem interiorem descendens. Pedes nudi, simplices; *coxæ femoribus breviores.*

Mas. Abdomen subcylindricum. Anus obtusus.

Fœm. Abdomen subovatum. Anus acutus.

Body very small, oblong-ovate, black, smooth, shining, beset with a few black bristles. Head almost round; epistoma very narrow. Eyes somewhat parted in both sexes. Oculi 3, on a tubercle of the crown. Proboscis very short, perpendicular. *Palpi broad, shorter than the proboscis.* Labrum long, very stout, broad-ovate and convex at the base, lanceolate and curved at the tip. *Palpi* incumbent, *large, ovate,* furnished with a few bristles, *shorter than the proboscis.* Labium rather small. Antennæ 4-jointed, porrect, inserted between the eyes in the middle of the face, approximate at the base, diverging, curved upwards, as long as the head; first joint very short; second slightly cyathiform, bearing a few bristles; third *short-oval or round,* compressed; fourth setiform, pubescent, as long as all the preceding, forming an angle with the third. Thorax gibbous; scutellum semicircular. Wings rather broad, incumbent and parallel in repose, finely pubescent, rounded at the tips; *cubital vein simple; externo-medial veins* 2; *discal areolet and subanal vein none; præbrachial areolet much shorter than the pobrachial*; longitudinal veins simple; second short, incurved, scarcely extending beyond the middle of the fore border; fifth descending to the interior margin. Legs long, simply pubescent, beset with a few black bristles; *coxæ shorter than the femora*; femora rather thick; tibiæ slender; anterior tibiæ with spines at their tips; hind tibiæ slightly curved.

Male. Abdomen rather long, almost cylindrical; tip obtuse.

Fem. Abdomen more oval, acute.

These flies appear from the spring to the autumn; they run with extreme rapidity, and frequent herbage, trunks of trees, hot-beds, and sea-weed. In hot-beds they are much infested with mites. The genus may be thus divided:—

a. Third joint of the antennæ ovate. Radial vein extended beyond

the middle of the costa. Hind tibiæ ending in a spoon-shaped lobe. Species 1–4.

a a. Third joint of the antennæ small, orbicular, much more compressed than the second. Radial vein ending about the middle of the costa. Hind tibiæ simple. Species 5, 6.

1. **aterrima,** Hal.; Ct. l b. e. 397 (1832). *Atra,* alis sublimpidis, halteribus flavis, *genubus ferrugineis.* Long. $\frac{3}{4}$; alar. $1\frac{1}{2}$ lin.

Broad, deep black. Wings nearly colourless; veins black, nearly equally distant from each other. Halteres yellow. *Knees ferruginous.*

Rare. (E. I.)

2. **nigra,** Mg. zw. vi. 344. 2 (1830); Mq. *Nigra,* alis limpidis, halteribus flavis, *tibiis basi apiceque fulvis, tarsis anterioribus fuscis.* Long. $\frac{1}{2}$–$\frac{3}{4}$; alar. 1–$1\frac{1}{2}$ lin.

Black. Wings colourless; veins black. Halteres yellow. *Tibiæ tawny at the base and at the tips; anterior tarsi brown.*

Generally distributed. (E. S.)

3. **exilis,** Mgrle.; Mg. zw. iii. 91. 1. pl. 23. f. 27. 28 (1822); Mq.; Ztt. *Nigra,* alis limpidis, halteribus flavis, *pedibus fulvis, femoribus nigris, tibiis posticis nonnunquam fuscis.* Long. $\frac{1}{2}$–$\frac{3}{4}$; alar. 1–$1\frac{1}{2}$ lin.

Black. Wings colourless; veins black. Halteres yellow. *Legs tawny; femora black,* with tawny tips; *hind tibiæ sometimes brown.*

Generally distributed. (E. S.)

4. **assimilis,** Fln. d. s. emp. 8. 5 (1815).—*flavipes,* Mq.; Mg.—*exilis* var., Mg.—*minima,* Mg.; Ztt. *Nigra,* alis limpidis, halteribus *pedibusque fulvis.* Long. $\frac{3}{4}$; alar. $1\frac{1}{2}$ lin.

Black. Wings colourless; veins black. Halteres and *legs tawny.*

Generally distributed. (E. S.)

5. **graminum,** Fln. d. s. emp. 15. 31 (1815); Mg.; Hal. *Nigra,* antennis fuscis basi flavis, *alis albidis,* halteribus flavis, *abdominis basi pedibusque fulvis.* Long. $\frac{1}{2}$; alar. $\frac{3}{4}$ lin.

Body black, hardly shining. Epistoma white. Proboscis black. Palpi yellow. Antennæ brown; first and second joints yellow; third nearly round, hardly longer than the second; fourth nearly four times the length of all the preceding. *Wings whitish*; veins brown; second longitudinal vein much nearer to the third than the costa; third and fourth almost parallel; fifth slightly curved to the hind border. Halteres yellow. *Abdomen tawny towards the base. Legs tawny*; fore femora thick; fore tibiæ rather thick.

On herbage. (E. I.)

6. **lunata,** Hal. MSS.—*graminum* var. β, Fln. *Fusco-cinerea, antennis basi abdomine pedibusque ferrugineis,* alis fusco-ferrugineis basi apice et litura costali pallidis, femoribus anticis crassissimis. Long. $\frac{1}{2}$; alar. $\frac{3}{4}$ lin.

Differs chiefly in its figured wings from *C. graminum.* Brownish-

grey. Eyes contiguous beneath the antennæ. Antennæ ferruginous at the base; third and fourth joints brown. Wings brownish-ferruginous, pale at the base and at the tips, and with a pale costal mark; præbrachial areolet very narrow, three-fourths of the length of the pobrachial. Abdomen and legs ferruginous; fore femora very thick.

Rare. On sandy coasts near Dublin. In Mr. Haliday's collection. (I.)

Genus XX. **CHERSODROMIA.**

CHERSODROMIA, Hal. MSS. *Tachydromia* p., Fln. *Empis* p., Ztt.

Palpi proboscide breviores. Alarum vena cubitalis simplex; venæ externo-mediæ 2; areola discoidalis et vena subanalis nullæ; areola præbrachialis pobrachiali æqualis. Coxæ femoribus breviores.

Palpi shorter than the proboscis. Wings often short; *cubital vein simple; externo-medial veins 2; discal areolet and subanal vein none; præbrachial areolet about as long as the pobrachial.* Legs formed for running; *coxæ shorter than the femora.*

The *Chersodromiæ* mostly inhabit the sea-shore, and in their habits resemble *Drapetis*; they may be thus divided:—

a. Third joint of the antennæ ovate-orbiculate, as long as the second. Species 1–3.

a a. Third joint of the antennæ orbiculate, shorter than the second. Species 4.

a a a. Third joint of the antennæ more acute, almost as long as the second. Species 5.

1. **hirta,** Wlk. e. m. iii. 180 (1836). *Nigra,* antennis nigris, *alis albidis ad costam subfuscis, halteribus ferrugineis,* pedibus nigris. Long. $1\frac{3}{4}$; alar. $3\frac{1}{2}$ lin.

Black, hardly shining, clothed with black hairs and with a few black bristles. Proboscis and palpi black. Antennæ black; third joint nearly round, a little longer than the second; fourth twice the length of all the preceding. Wings whitish, indistinctly tinged with pale brown along the fore border; veins dark brown; second longitudinal vein much nearer to the costa than to the third; third and fourth very slightly diverging from each other; fifth straight. *Halteres ferruginous.* Legs black, stout, hairy, beset with a few black bristles; anterior femora and fore tibiæ rather thick.

Rare. Appears in summer and autumn on sandy sea-coasts, among fuci. (E. I.)

2. **cursitans,** Ztt. a. holm. 82 (1819); Fln. *Nigra,* obscura, alis infumatis fusco-venosis, *halteribus fuscis,* tibiis posterioribus præsertim pilis longioribus. Long. $\frac{3}{4}$; alar. 2 lin.

Black, dull. Wings clouded; veins and *halteres brown*. Posterior tibiæ bristly.

Rare. Inhabits the sea-coast. (E. I.)

3. **incana,** Hal. MSS. *Canescens, facie et palpis albicantibus, alis albis*, abdomine nudo, pedibus fuscis. Long. $\frac{1}{3}$; alar. 1 lin.

Hoary. Face and palpi whitish. Antennæ with the second and third joints of equal length; fourth a little longer than all the preceding. Thorax with a thin and very fine pubescence. *Wings white*; veins yellowish. Halteres pale, with brown tips. Abdomen bare. Legs brown; tibiæ with a few hairs towards the tips.

Rare. On sandy coasts of the sea and of lakes. In Mr. Haliday's collection. (I.)

4. **arenaria,** Hal. e. m. i. 161 (1833).—*brevipennis*, Ztt. *Nigra*, antennis nigris, *alis brevissimis* fuscis ad costam albidis, pedibus piceis. Long. $\frac{1}{2}$–$\frac{3}{4}$; alar. $\frac{3}{4}$ lin.

Male and *Fem.* Body *black*, not shining. Proboscis black. Palpi brown. Antennæ black; third joint nearly round, not longer than the second; fourth full twice the length of all the preceding. *Wings rudimentary*, brown, whitish along the hind border; veins black; second longitudinal vein a little nearer to the third than to the first; third and fourth almost parallel; fifth slightly inclined to the hind border. Legs pitchy, stout.

Local, but very abundant on some parts of the sea-coast in the autumn. (E. I.)

5. **speculifera,** Hal. MSS. *Cana*, facie alba, antennis basi palpis pedibusque totis flavis, *pleuris macula rotunda atra nitida supra coxas medias, alis hyalinis.* Long. 1; alar. $2\frac{2}{3}$ lin.

Hoary. Face of the head white. Eyes very minutely pubescent. Palpi yellow. Antennæ yellow at the base; third joint almost oval, as if triannulated; fourth joint long, setiform, on the tip of the third. Thorax with a few scattered hairs. *Pleuræ with a black round shining spot above the middle coxæ.* Wings colourless; veins very pale. Halteres pale, with brown tips. Legs yellow, pubescent, with a few scattered hairs; hind tibiæ furnished with some longer hairs.

Very rare. In Mr. Haliday's collection. (I.)

Genus XXI. **TACHYDROMIA.**

TACHYDROMIA, Mq. d. n. (1827); Ct. *Tachydromia* p., Fb.; Fln.; Mg. *Musca* p., L.; Fb. *Calobata* p., Fb. *Sicus* p., Ll. *Tachypeza*, Mg.; Ztt.

Corpus minutum, elongatum, glabrum. Color niger, nitidus; pictura alarum interdum fusco-fasciata. Oculi fusci, æneo-micantes, in utroque sexu supra paullo disjuncti, infra conjuncti. Proboscis

capite brevior. *Palpi* oblongi, *proboscidis longitudine.* Antennæ 4-articulatæ, parvæ; articulus primus brevissimus inconspicuus, tertius compressus, ellipticus; quartus longus, setiformis. *Alarum vena cubitalis simplex; venæ externo-mediæ 2; areola discoidalis et analis nullæ.* Pedes cursorii; *coxæ femoribus breviores*; femora antica crassa.

Mas. Anus obtusus.

Fœm. Anus acutus.

Body black, minute, long, slender, smooth, shining; dull in the last two species. Head oval, narrower than the thorax. Eyes æneous or green, slightly parted above, connected beneath. Ocelli 3, in front. Proboscis perpendicular, shorter than the head. Labrum acute. Lingua setiform. Maxillæ setaceous, as long as the lingua. *Palpi* generally *as long as the proboscis*, oblong, large, drooping, bristly at the tips, fringed on the outer border with short hairs. Labium cylindrical. Antennæ 4-jointed, porrect, inserted in the middle of the face, approximate at the base, diverging upwards, as long as the head; first joint very short, inconspicuous; second short, cylindrical, somewhat bristly; third rather long, elliptical, compressed, hairy beneath; last long, setiform. Thorax long-oval; scutellum semicircular, rather narrow. Wings pubescent, obtuse, incumbent, longer than the body; *cubital vein simple; externo-medial veins 2; discal areolet and anal vein none.* Halteres uncovered. Abdomen cylindrical, rather long. Legs slender; *coxæ shorter than the femora*; fore femora incrassated, with a double row of minute spines beneath; fore tibiæ clavate, with a series of spines on the inside; tarsi longer than the tibiæ; metatarsus as long as all the other joints; ungues and onychia distinct.

Male. Tip of the abdomen obtuse.

Fem. Tip of the abdomen acute.

The *Tachydromiæ* run with great swiftness, and appear from the spring to the autumn, on trunks of trees, palings, stones, leaves of shrubs, and about the shores of lakes and the banks of rivers. The species may be thus distributed:—

a. Palpi as long as proboscis. Species 1–4.

a a. Palpi shorter than proboscis; a trace of subanal vein. Sp. 5, 6.

"The last two, according to the synoptic table of the genera, would belong to *Platypalpus*. They do not perfectly agree with either of the two genera, and perhaps require the formation of a new one, to which Meigen's name *Tachypeza* might be applied restrictedly."—*A. H. H.*

1. **arrogans,** L. fn. 1857 (1761); Fb.; Gm.; Fln.; Ll.; Mg.; Mq.; Ztt.; Ct.! b. e. 477. Nigra, antennis basi fulvis, thorace nigro-æneo vel nigro-viridi, *alis albis fusco-bifasciatis, venis secunda tertiaque approximatis,* halteribus flavis, coxis femoribus anterioribus basi subtusque genubusque fulvis, *tarsis flavis apice nigris.* Long. $\frac{3}{4}$–1; alar. $1\frac{1}{2}$–2 lin.

Black, shining. Head and thorax beset with a very few bristles. First and second joints of the antennæ tawny; third nearly round, very little longer than the second; fourth very long, more than four times the length of all the preceding joints. Thorax more or less æneous or greenish-black. *Wings white, with 2 very broad dark brown bands*; veins black, tawny towards the base; *second longitudinal vein hardly more remote from the third than from the costa.* Halteres yellow. Coxæ tawny; anterior femora tawny beneath and at the base; knees tawny; *tarsi yellow, black towards the tips.*

Generally distributed. (E. S. I.)

2. **cimicoides,** Fb.? sp. i. 447. 61 (1781); Gm.; Mg.—*umbrarum*, Hal.—*albitarsis*, Stæg.; Ztt. d. s. i. 313. 2. Nigra, antennis basi fulvis, thorace nigro-æneo, *alis albis fusco-bifasciatis, venis secunda tertiaque remotis*, halteribus flavis, coxis femoribus anterioribus basi subtusque genubusque fulvis, *tarsis flavis apice nigris.* Long. $1\frac{1}{4}$; alar. $2\frac{1}{2}$ lin.

Black, shining. Head and thorax beset with very few spines. First and second joints of the antennæ tawny; third nearly round, very little longer than the second; fourth very long, more than 4 times the length of all the preceding. *Wings white, with 2 brown bands, which are rather narrower and paler than those of T. arrogans*; veins black, yellow towards the base; *space between the second and third longitudinal veins twice that between the second and the costa.* Halteres yellow. Coxæ tawny; anterior femora tawny beneath and at the base; knees tawny; *tarsi yellow, black towards the tips.* The male has the intermediate tibiæ at the tip produced into a compressed lobe, and the legs more black.

Rare. In the collections of the Entomological Club and of Mr. Haliday. (E. S. I.)

3. **connexa,** Mg. zw. iii. 70. 3. pl. 23. f. 24 (1822); Mq.—*cimicoides*, Mg. kl. Nigra, antennis fuscis basi flavis, thorace nigro-æneo, *alarum fasciis duabus connexis fuscis*, halteribus albis, pedibus fulvo flavoque variis. Long. $1\frac{1}{4}$; alar. 2 lin.

Black, shining. Head and thorax beset with very few black bristles. Antennæ brown; first and second joints yellow; third nearly round, very little longer than the second; fourth more than 4 times the length of all the preceding. Thorax æneous-black. *Wings white, mostly occupied by 2 very broad dark brown bands, which are connected beneath the costa, and nearly so on the hind border*; veins black, tawny towards the base; *second longitudinal vein as near to the third as to the costa.* Halteres white. Coxæ, posterior femora and fore tibiæ at the base, and fore femora tawny; anterior tibiæ, excepting the tips and anterior femora, sometimes tawny. Legs sometimes yellow, excepting the hind femora and hind tibiæ, which are brown.

Generally distributed. (E. I.)

4. **morio,** Ztt. i. l. 546. 2 (1839). Nigra, *alis hyalinis fusco-bifasciatis, tarsis fuscis basi supra flavis.* Long. $\frac{3}{4}$; alar. $1\frac{1}{2}$ lin.

Black, shining, very small. Palpi whitish, covered with whitish pubescence; apical bristle black. *Wings colourless, with 2 broad brown bands, parted by a broader colourless interval.* Anterior coxæ brownish-ferruginous, with silvery-white pubescence; tibiæ brownish-black, ferruginous at the base; tips of middle tibiæ unarmed; *tarsi brown, yellow at the base. Male.* Hypopygium terminated by a stout obliquely reflexed claw without cirri. *Fem.* Vagina with 2 contiguous small linear valves, which proceed from the last oblong slender segment.

Rare. A pair found among shingle in the bed of the river Dodder, near Dublin. In Mr. Haliday's collection. (I.)

5. **fuscipennis,** Fln. d. s. emp. 14. 19 (1815); Mg.; Mq.; Ztt. Nigra, antennis fuscis basi flavis aut fulvis, *alis fuscis apice albidis,* halteribus flavis, pedibus fulvis, tibiis tarsisque posticis fuscis. Long. 1–$1\frac{1}{4}$; alar. $1\frac{1}{2}$–2 lin.

Black, hardly shining. Head and thorax beset with very few black bristles. Palpi yellow; their bristles black. Antennæ brown; first and second joints yellow or tawny; third joint short-conical; fourth nearly 4 times the length of all the preceding joints. *Wings brown, whitish at the tips*; stigma black; veins brown, tawny towards the base; second longitudinal vein as near to the third as to the costa; third and fourth almost parallel; fifth slightly curved downward. Halteres yellow. Legs tawny; fore femora very thick; fore tibiæ and middle femora rather thick, the former slightly curved; hind tibiæ and hind tarsi brown, tawny towards the base.

Generally distributed. (E. S.)

6. **nervosa,** Mg. zw. iii. 72. 8 (1822); Ztt. Nigra, antennis fuscis basi flavis, *alis albis fusco-vittatis,* halteribus flavis, pedibus fulvis, femoribus nigro-vittatis, tibiis apice nigris. Long. $1\frac{1}{4}$–$1\frac{1}{2}$; alar. $2\frac{1}{2}$–3 lin.

Black, hardly shining. Head and thorax beset with very few black bristles. Palpi yellow; their bristles black. Antennæ brown; first and second joints yellow; third conical, longer than the second; fourth black, nearly 4 times the length of all the preceding. *Wings whitish, brown along the borders of the veins*; stigma black; veins black, tawny towards the base; second longitudinal vein as near to the third as to the costa; third and fourth almost parallel; fourth slightly curved to the hind border. Halteres yellow. Legs tawny; femora striped with black; tips of the tibiæ black; fore femora thick; fore tibiæ and middle femora rather thick.

Generally distributed. (E. S. I.)

Genus XXII. **PHYLLODROMIA.**

PHYLLODROMIA, Ztt. d. s. i. 269 (1842). *Empis* p., Fb. *Tachydromia* p., Fb.; Pz. *Hemerodromia* p., Mg.; Mq.; Ztt.

Corpus minutum, angustum, subcylindricum, parum nitidum, glabrum, molle, tenerum. Color flavus, raro niger. Proboscis capite paullo brevior. Antennæ articulo tertio ovato; quarto setiformi, longissimo, deflexo. *Vena cubitalis simplex. Coxæ anticæ femoribus non breviores*; femora antica crassa.

Body minute, narrow, nearly cylindrical, hardly shining, smooth, soft. Proboscis a little shorter than the head. Antennæ with the third joint oval; the fourth setiform; very long, deflexed. *Cubital vein simple. Fore coxæ as long as the femora,* which are thick.

The *Phyllodromiæ* appear in spring and summer, and inhabit the leaves of trees and shrubs; they run quickly, but their flight is slow.

1. **melanocephala,** Fb. e. s. iv. 407. 21 (1794); Fln.; Ztt.—*mantispa,* Pz.; Mg.; Mq.—*obsecratoria,* Wlk. Ferruginea, capite cinereo, antennis nigris basi flavis, thorace nonnunquam nigro-vittato, alis limpidis, abdominis dorso fusco, halteribus pedibusque flavis, femoribus anticis nonnunquam nigro-vittatis. Long. $1\frac{1}{4}$; alar. $2\frac{1}{4}$ lin.

Ferruginous. Head grey. Proboscis tawny. Antennæ black; first and second joints yellow. Thorax sometimes with a short black stripe. Wings colourless; veins tawny, yellow towards the base. Halteres pale yellow. Abdomen brown on the disc. Legs pale yellow; tips of the tarsi brown; fore femora sometimes striped with black.

Generally distributed. (E. S. I.)

Genus XXIII. **HEMERODROMIA.**

HEMERODROMIA, Hms.; Mg. kl. (1804); Ll.; Mq.; Ztt. *Tachydromia* p., Fln.

Corpus parvum, sæpe minutum, elongatum, angustum, glabrum, parum nitidum. Color corporis cinereus, flavus, raro niger; pedum pallidus. Oculi virescentes, in utroque sexu per lineam angustam in fronte disjuncti. Proboscis capite paullo brevior. Antennæ articulo primo brevissimo, tertio ovato subacuto, quarto setiformi, perbrevi. *Vena cubitalis furcata. Coxæ anticæ femoribus non breviores*; femora antica crassa.

Mas. Anus obtusus, interdum incrassatus.

Fœm. Quandoque aliter coloratus; anus acutus.

Body small or minute, long, slender, smooth, hardly shining. Colour

of the body cinereous, yellow, rarely black; of the legs pale. Head round. Eyes green, parted in both sexes by a very narrow front. Ocelli 3, on the crown. Proboscis perpendicular, a little shorter than the head. Labrum acute. Palpi subulate or cylindrical, bristly at the tips. Labium cylindrical. Antennæ 4-jointed, porrect, approximate at the base, diverging upwards; first joint very small; second short, cylindrical; third oval, somewhat pointed in front; fourth setiform, very short. Thorax rather long, or almost cylindrical. Wings long, with obtuse tips, very finely pubescent, incumbent and parallel in repose. *Cubital vein forked.* Halteres uncovered. Abdomen cylindrical. Legs long, slender. *Fore coxæ as long as the femora*; fore femora thick in most species, spinose beneath; metatarsi as long as the other 4 joints.

Male. Tip of the abdomen obtuse, sometimes incrassated.

Fem. Occasionally differing from the male in colour; tip of the abdomen acute.

The *Hemerodromiæ* prey on minute *Diptera,* and inhabit the leaves of shrubs, hedges, and grassy spots, and are most frequent on the banks of rivers and of lakes; all their movements are slow. The genus may be thus divided:—

a. A discal areolet; præbrachial areolet longer than the pobrachial.
  b. Stigma black. Species 1, 2.
  b b. No stigma. Species 3.
a a. No discal areolet; pobrachial areolet longer than the præbrachial. Species 4–6.

1. **præcatoria,** Fln. d. s. emp. 10. 12 (1815); Ztt.—*monostigma,* Mg.; Mq.; Steph. ill.! pl. 45. f. 3. *Cinerea,* antennis nigris basi flavis, alis limpidis, halteribus pedibusque flavis. Long. 2–2½; alar. 3½–4½ lin.

Grey. Proboscis yellow, with a black tip. Antennæ black, yellow towards the base. Wings colourless; stigma black; veins black, yellow at the base. Halteres yellow. Legs yellow; tips of the tarsi brown. *Fem.* Abdomen tawny beneath, sometimes also above with a row of grey spots along each side.

Generally distributed. (E. S. I.)

2. **monostigma,** Hms.; Ztt. d. s. i. 267.8 (1842). *Fulva,* capite albo, antennis flavis, *thorace cinereo-bivittato,* pectore albo, alis limpidis, stigmate nigro, halteribus pedibusque flavis, abdomine maculis nigris vittato. Long. 1½; alar. 3 lin.

Smaller, paler, and more slender than *H. præcatoria.* *Tawny.* Head white. Eyes red. Proboscis yellow, with a black tip. Antennæ yellow. *Thorax with 2 grey stripes*; underside tinged with white. Wings colourless; stigma black; veins brown, yellow towards the base.

Halteres yellow. Abdomen with a row of black spots along the back. Legs yellow; tips of the tarsi black.

Generally distributed. (E. S. I.)

3. **flavella,** Ztt. i. l. 543. 4 (1842).—*præcatoria,* Mg.—*melanocephala,* Hal. Testacea, capite nigro, *thorace albido-univittato,* alis limpidis, abdomine supra fusco, pedibus flavis. Long. $1\frac{1}{4}$–$1\frac{1}{2}$; alar. $3\frac{1}{4}$–4 lin.

Testaceous. Head black. Antennæ yellow. Thorax with a whitish dorsal stripe. Wings colourless; no stigma; veins pale. Halteres white. Abdomen brownish above. Legs yellow.

Rare. In Mr. Haliday's collection. (I.)

4. **unilineata,** Ztt. d. s. i. 263. 3 (1842).—*oratoria,* Mg.; Mq. Testacea, capite nigro, antennis flavo-albis, *thorace nigro-vittato,* alis limpidis, halteribus pedibusque flavo-albis, *abdominis disco nigro.* Long. $1\frac{1}{4}$; alar. 3 lin.

Testaceous. Head black. Proboscis, antennæ, halteres, and legs yellowish-white. *Thorax with a black stripe.* Wings colourless; veins pale. *Disc of the abdomen black.*

Rare. In Mr. Haliday's collection. (E. I.)

5. **albicornis,** Hms.; Mg. zw. iii. 64. 4 (1822).—*raptoria,* Fln. *Nigra,* antennis flavis, *thorace nigro-cinereo fulvo*-trivittato, alis limpidis, pedibus flavis. Long. $1\frac{1}{2}$; alar. $3\frac{1}{2}$ lin.

Black. Antennæ yellow. *Thorax greyish-black, with* 3 *tawny stripes.* Wings colourless; veins brown, yellow towards the base. Halteres white. Legs yellow.

Rare. In Mr. Haliday's collection. (E. I.)

6. **oratoria,** Fln. d. s. emp. 11. 13, 34. 13 (1815); Ztt. *Nigra,* antennis flavis, *thorace cinereo-testaceo,* alis limpidis, pedibus flavis. Long. $1\frac{1}{4}$–$1\frac{1}{2}$; alar. $2\frac{1}{2}$–3.

Black. Antennæ yellow. *Thorax greyish-testaceous.* Wings colourless, veins brown. Halteres and legs yellow.

Not rare. (E. I.)

Family XXI. DOLICHOPIDÆ.

Dolichopidæ, Leach p. (1819); St.; Ct.; Wstw. *Dolichopodes,* Fln. p. (1823); Mg.; Lp.; Ll.; Mq.; Ztt.; Stg.; Lw. *Dolicopinæ,* Rdn. *Rhagionidæ* p. *et Dolichopodes* p., Ll. gen. (1809). *Mydasidæ* p. *et Stratiomydæ* p., Rfnq. (1815).

Proboscis deflexa; palpis compressis, incumbentibus; maxillis nullis. Antennæ porrectæ, articulo tertio compresso, arista biarticulata.

Alæ lobo axillari obsoleto, vena costali circa apicem alæ abrupta, *cubitali simplici; areolis præbrachiali et anali minutissimis, pobrachiali effusa in discalem elongatam, vena transversa simplici clausam. Abdomen segmentis* 5 (aut pluribus in mare).

The *Dolichopidæ* are in general small flies, rarely exceeding three lines in length; distinguished by the prevalence of metallic tints, with a partial coating of tomentum, repelling water, which communicates a hoary gloss particularly to the lower parts; this is composed of excessively minute, short, compressed, pellucid hairs, laid flat, and often so thickly set as to overlap in several layers. The head is nearly as broad as the thorax, usually representing a segment less than a hemisphere; the occiput flat and vertical, its orbit towards the vertex with a row of bristles ("supercilia," Bouché), another row, often of a different colour, or else a beard of soft hair, along the lower orbit. The eyes mostly pubescent, large, occupying the sides of the head entirely, so as to form part of the peristoma, scarcely ever leaving a narrow line of cheek between. On the front they are distant, except in the males of the genus *Diaphorus*. The vertex is usually more or less sunk between the eyes, leaving a prominent tubercle, which bears the three ocelli in a triangle guarded by long bristles. The face is not expanded into cheeks below; the lower region not inflected to the peristoma, but separated from the upper by an elevated line or by a tubercle at each side. Sometimes, especially in the males, the face becomes extremely narrow, or the eyes meet below the antennæ. There are no vibrissæ. The cavity of the mouth is nearly round, filled by *the proboscis*, which is *directed downwards*, in general projecting little, but larger in the female than the male, not forming a visible angle with the short retracted mentum. The *palpi* of one piece, broad, *compressed*, inserted on the base of the proboscis, meeting in front, and *incumbent* on it, like a bilobed epistoma. The labrum is unusually stout, and its deflected sides are furnished with one or two sharp teeth; these are separated by deep incisions, but are not free, as has been represented (Hal. z. j. v. 354), nor does there seem to be ground for considering them as representing the maxillæ (Ll. gen. iv. 290). The tongue, which is abruptly enlarged at the base, is by this means prevented from fitting closely into the groove of the labrum, and lies lower down between the toothed edges of it. There is *no* trace of *maxillæ*. The genera *Orthochile* and *Aphrosylus* present modifications of this structure, noticed in their proper places. The *antennæ* are *extended forwards*, usually shorter than the head,

with three distinct joints besides the slender ones which compose the arista, the second joint usually the shortest of these three, and most closely attached to the third, intromitting a slender tubular process into an oblique sinus in the base of the *third joint*, which is rather thick in this part, but elsewhere compressed, *without* any trace of *division*, bearing *a two-jointed arista*, usually on its upper edge, sometimes at its extremity, the arista in the latter case being sometimes contracted to a style. The thorax is convex, the suture of the mesonotum before the wings merely traced in its commencement at each side. The bristles are chiefly disposed in longitudinal lines: the scutellum has commonly two unequal bristles at each side, and the disc rather flat and naked. The wings of themselves afford very definite characters of the family, although at first sight like some of the *Muscidæ*. The costal vein terminates where the præbrachial meets it: the subcostal is short, rarely approaching the middle of the anterior margin; the mediastinal is very faint and lies close to the subcostal; the radial springs from this almost close to the humeral transverse vein, and *the cubital vein*, which is *simple*, parts from it almost immediately, its origin forming a thickened dot, close to which a very short and oblique transverse vein connects it with the præbrachial; the *præbrachial areolet*, which is thus bounded, is close to the root of the wing, and *very minute*. So *also* is *the anal* areolet ("angular area," Fln.), which is scarcely circumscribed behind, the anal vein being here very faint, and in its outer course appearing rather as if a continuation from the subanal, which returns back from the pobrachial in a strong curve. The *pobrachial areolet* is merely indicated in position as very minute, but is *not separated from the discal; which is oblong*, closed, at about the half length of the wing, or nearer to the posterior margin, by an unbranched transverse vein; *only two veins proceeding from it to the margin*, as continuations of the præbrachial and pobrachial veins, the former of which sometimes approaches the cubital thenceforth in a curve, or is bent abruptly, or even branched (g. *Psilopus*). *No axillary lobe*, the sinus straight; the axillary alulæ are small, deflected, fringed with long hairs, the colour of which sometimes affords subsidiary specific characters; the scutellar alulæ are obsolete. The *abdomen* is composed *of five segments* above, the inflected sides of which nearly conceal the ventral plates, and are marked with a row of small polished foveolæ. Besides the silvery white tomentum so conspicuous in some (e. g. *Argyra*), the abdomen is usually clothed with pubescence pale especially on the sides, and

beset with longer bristles chiefly towards the incisures. The ventral portion of the first segment is obsolete. In the male often a sixth, rarely even a seventh segment appears above, before the hypopygium, which is usually large, bent in under the belly, sometimes imbedded or concealed in a cavity behind the fourth ventral segment, at other times entirely disengaged from it, and is furnished with a number of appendages varying greatly in size and form: these have been particularly examined in several species, and described, by Cuvier, in the second volume of the 'Journal de Physique' (Bosc's). In the female the vagina is retracted, very short, its upper lid armed at the edge with a row of (about 8) teeth, or short flattened spines, implanted in distinct sockets, almost concealing the very short tentacula below them, which consist each of one ovate piece. The legs are generally long and slender; the intermediate pair usually the longest, the hind pair the thickest; the fore pair seated at some distance from the intermediate, but their coxæ long enough to touch the latter. There are usually some scattered spines or bristles on the sides of the tibiæ, as well as at the tips at least of the posterior pairs, and the posterior femora mostly bear a single spine in front near the tip. The males are often distinguished from the other sex by the form and pubescence of the legs, particularly of the tarsi. The onychia are of moderate size, flat, membranous, pubescent; the empodium recurved, usually slender, almost setaceous, and finely pubescent; in *Aphrosylus* more thickened.

The present family, being one of the most distinct among the *Brachycera*, was early indicated by the consecutive position of the species in general in the works of Fabricius. Harris, in his 'Exposition of English Insects' (1782), seized with a keen eye the distinctive veining of the wing for the type of a subdivision of the Linnæan genus *Musca* (Order V. section 3). The genus *Dolichopus* was first characterized by Latreille in 1796, and converted into a family (*Dolichopodes*) in 1809; but the true limits of it were not accurately defined until the appearance of the fourth volume of Meigen's great work in 1824, since which time there has been no difference of opinion in this respect.

The affinities of the family are more difficult to determine with certainty, on account of the strong characters which separate it from the rest. On the whole, it seems to make the nearest approach to those *Empidæ* in which the maxillæ become obsolete; and in particular the genus *Chersodromia* in that, and *Aphrosylus* in the present family, offer points of resemblance. Agreeing with the *Empidæ* and *Lonchopteridæ* in the disappearance of the axillary

lobe, the *Dolichopidæ* differ from the former in the veining of the wings, and particularly in the minute pobrachial areolet not being separated from the discal. Usually also the head evidently larger in proportion, the abdomen of fewer segments, the spines at the end of the posterior tibiæ, the different direction of the external sexual organs, and the metallic tints, assist to characterize them. The *Lonchopteridæ* differ evidently by the bristly face and cheeks, and the form and veining of their wings, which want the discal areolet. The *Platypezidæ* have the ternate areolets (i. e., præbrachial, pobrachial, and anal) all complete, and in general a rounded axillary lobe to the wings. Among the *Muscidæ* some of the groups towards the end present partial resemblances to the *Dolichopidæ*; in particular the *Ephydrini*, with which they were originally united by Fallen; but the porrected proboscis of these, forming a visible angle with the mentum, the face expanded below into the cheeks, and usually also the deflected antennæ, will prevent their being confounded with the present family.

With respect to the internal anatomy, the *Dolichopidæ* present some peculiarities so great that Dufour treats of them as exceptional cases in the Order; concerning which, see his summary in 'Annales des Sciences Naturelles,' 3me série, tome i.

The *Dolichopidæ* are all predaceous. They can run on the surface of the water, like the *Gerridæ* among the *Hemiptera*, and in this manner many of them catch their prey, consisting of smaller insects, *Annelida*, and even small conchiferous *Gasteropoda*. The gaping orifice at the end of the proboscis, formed by the introverted labella, admits and holds fast the prey until its juices are sucked out: but the structure of the mouth seems incompatible with what Fischer supposed he saw, viz., that *Medeterus diadema* swallows its prey whole by this aperture. The groups which have naked eyes (*Psilopus*, &c.) usually frequent dry places.

With respect to the earlier states of these insects, we know even now little more than what Degeer observed eighty years ago. In the middle of the month of May he got under ground some slender cylindrical larvæ, of twelve segments, white and smooth, pointed at the anterior extremity; the head variable in form and retractile; the mandibles appearing externally as two tubercles, that meet and part, with a smaller point enclosed between them, their internal continuations separate, long, and much thickened at the root; on the underside of the segments some protuberances, serving as feet; the last segment rather thicker, ending with two recurved hooks, and below these two conical fleshy protuberances, in which the trunks of the tracheæ seem respectively to have their

outlet (vi. pl. xi. fig. 14–16). The first week in June they changed into pupæ, casting their skin. The head of the pupa was armed with several points; the ends of the legs, in their sheaths, somewhat detached from the body; the thorax bearing on each side, near the head, an S-shaped process, probably serving for respiration in this stage (fig. 17, 18). Out of these pupæ *Dolichopus æneus* proceeded in a little more than three weeks' time. From this account, the transformations appear to be most like those of the *Empidæ*, among the families of *Brachycera* which have the pupa stripped of the old skin; the head of the larva being variable in form, and destitute of jointed appendages: see the transformations of *Rhamphomyia spinipes*, figured by Bouché ('Naturgeschichte,' pl. 4. fig. 26–30).

SYNOPTIC TABLE OF THE GENERA.

- Proboscis
  - incurved, unguiculated . . . . . 15. APHROSYLUS.
  - straight, obtuse: Prebrachial vein of the wings
    - forked . . . . . 1. PSILOPUS.
    - undivided: Third joint of the antennæ bearing the arista
      - above, before the end: Discal transverse vein
        - at the end: Legs
          - nearly unarmed . . . . . 14. MEDETERUS.
          - more or less bristly: 3rd joint of antennæ
            - very short and rounded . . . . . 13. CHRYSOTUS.
            - tapering to a point: the base
              - gradually enlarged . . . 8. RHAPHIUM.
              - abruptly enlarged . . . 9. MACHÆRIUM.
        - placed at about the half-length of the wing: Hypopygium of the male
          - near the hind margin of the wing . . . . . 5. HYDROPHORUS.
          - more or less deeply imbedded in the ventral cavity: Subcostal vein
            - not one-third of the length of the wing: Abdomen
              - depressed: Face
                - very narrow . . . . 6. CAMPSICNEMUS.
                - broad . . . . . 7. THINOPHILUS.
              - conical or compressed: Eyes of the male
                - distant on the front . 11. PORPHYROPS.
                - meeting on the front . 12. DIAPHORUS.
            - more than one-third of the length of the wing . 10. ARGYRA.
          - completely free: Proboscis
            - shorter than the head: Hypopygium of male
              - dusky . . 3. DOLICHOPUS.
              - pale . . 2. SYBISTROMA.
            - longer than the head . . . . . 4. ORTHOCHILE.

Genus I. **PSILOPUS.**

PSILOPUS, Mg. zw. (1824); Mq.; Ztt. *Leptopus*, Fln. *Sciapus*, Zlr. *Dolichopus* p., Ll.; Fb. s. a; Wd. z. m; Lhm. *Musca* p., Fb.; Gm.

Antennæ articulo tertio patelliformi, ante apicem arista deflexa. Oculi glabri. Vena præbrachialis furcata, ramo anteriore oblique flexo prope cubitalem exeunte. Hypopygium maris extricatum, appendicibus tenuibus.

Very slender. *Eyes* apparently *glabrous*, separated in both sexes; the lower orbit fringed with soft white hairs; the face usually broad, more so in the female. *Third joint of the antennæ* short and *rounded*, the slender pubescent *arista placed on its upper edge*; the penultimate joint short, but usually extending beyond the end of the third, and forming an angle with the last, which is *drooping* and often very long. (In *P. platypterus* the fourth joint is particularly short, and less distinct.) Wings usually broad, with the anal angle rounded away: the *præbrachial vein* in its last or subapical tract *forked*, the posterior branch running on straight, but becoming faint, and usually vanishing before the margin, the *anterior branch* distinct (in *P. platypterus* faint), *inclined forwards*, with a strong flexure, and reaching the margin *close to*, without however meeting, *the cubital vein*. The alulæ have a narrow denticulated black edge and a radiating fringe of hairs. The abdomen of the *males* is very long and slender, nearly cylindrical, and a little arched, showing six segments above; the *hypopygium disengaged* from the ventral cavity, broad, compressed, *with* a number of *slender appendages* of various form and length. In the female the spines of the vagina are longer than usual. The legs are very long and slender, the spines of the tibiæ few and slight. In the females of all, the fore coxæ, and the lower edge of the fore femora in their first half, are pectinated with a few long pale spines; which are slighter in the males, if found at all in this sex.

The warmer climates of both hemispheres abound in the species of this genus; some of them, with variegated wings, among the handsomest of the family. The few species that occur in the British islands have the wings spotless, the first two joints of the antennæ and the greatest part of the legs pale yellowish. They may be distributed as follows:—

a. First joint of hind tarsi twice as long as the second. Species 1.
a a. First joint of hind tarsi little longer than the second.
b. Abdomen with narrow indistinct bands only.
c. Fore tarsi with peculiar marks in the male. Species 2, 3.
c c. Fore tarsi alike in both sexes. Species 4, 5.
b b. Abdomen with broad dark bands. Species 6.

1. **platypterus,** Fb. s. a. 270. 20 (1805); Mg.; Mq.; Zlr.; St. ill. h. pl. 45. f. 4!—*tipularius*, Fln.; Ztt. Pallide *æneo-viridis*, capite albido, *pedibus pallidis, metatarsis* omnibus *elongatis; Mas. alis divaricatis, femoribus anticis sub apice crinitis, tarsis intermediis ante apicem atrum albis.* Long. 2–3; alar. 5 lin.

Pale *metallic green*, somewhat shining. Front and face glossy white. Face long and narrow, in the male very narrow. *Wings* broad, *in the male* very broad, rounded and *divaricated*. Abdomen with dusky incisures. Hypopygium of the male with a pair of hairy oblong valves shorter than itself, the other appendages very minute. *Legs pale yellow*, only the tips of the tarsi darker. In the *male* the *fore femora* are *fringed beneath* with fine soft hairs, particularly *towards the tip*, the third and fourth joints of the fore tarsi are each longer than the second, the fifth very short; the *middle tarsi* have the *third and fourth joints* compressed, *white*, the *fifth* with the tip of the fourth *black*. *The first joint of the hind tarsi* is *twice as long as the second*, scarcely so much in the female.

The most abundant species in these islands; fond of resting on the shady side of gates and palings, in small troops, chasing each other about very playfully.

2. **Wiedemannii,** Fln. d. s. dol. 24. 2 (1823); Ztt. Pallide *æneo-viridis*, capite albido, *pedibus pallidis, tarsis fuscis; Mas. tarsorum anticorum articulo quarto lobato, femoribus anticis subtiliter pilosis.* Long. 2–3; alar. 5 lin.

Pale *metallic green*, somewhat shining. Face glossy white, rather broad, front yellowish-white. Abdomen with dusky incisures, the transparent pale colour of the belly sometimes extending to the sides in spots. Hypopygium of the male with four appendages that end nearly at the same length, the uppermost ("aculeus," Zlr.) very slender, springing almost from the base, then a pair of incurved ones forming the forceps, the undermost one compressed and dilated towards the base; under this last again a shorter obtuse one, with some longer hairs at the tip of it, as well as of the forceps. *Legs pale yellow; tarsi dusky*, except at the base; the first joint of the hind pair scarcely longer than the second. The *male* has the tip of the *fourth joint in the fore pair* compressed, and *produced in a lobe* over the fifth, and black like it, and there are *a few* long *fine hairs on* the underside of *the fore femora* towards the base. The female is usually more yellowish-green, sometimes almost ochre, with little of metallic tinge.

Not uncommon on some tracts of sandhills close by the sea. (E. S. I.)

Obs. P. nervosus, Lhm. (Nov. Act. Acad. dec. 2. xii. 242), as synonymous with which Meigen cites *P. Wiedemannii,* Fln., erroneously, is distinguished by the strongly bent discal transverse vein, and the longer first joint of the hind tarsi: the male has a tuft of five long hairs at the base of the fore femora, the first of them longer than the thigh, and the hypopygium furnished with a pair of very long hairy appendages. This species has been introduced into British lists, probably by error for *P. Wiedemannii.*

3. **obscurus,** Mg. zw. iv. 39. 7 (1824). *Æneo-viridis,* fronte et hypostomate albo-micantibus, *pedibus pallidis, tarsorum anticorum articulo ultimo albo-micante, Mas.* Long. 2 lin.

Shining *metallic green*; like *P. lugens,* but the *fore legs* are *entirely yellow,* only the *last joint of* the *tarsus glossed* with *white* in the *male,* which has the fore femora pectinated. The other *legs* are *yellow,* with the tarsi somewhat brownish.

This description is derived from Meigen, who received his specimen from England. In the collection of Mr. Clifton. (E.)

4. **longulus,** Fln. d. s. dol. 24. 4 (1823); Mg.; Ztt. *Obscure æneo-viridis, hypostomate parum albo-micante, pedibus pallidis, tarsis fuscis simplicibus, femoribus anticis pectinatis.* Long. 1½–2; alar. 4½ lin.

Dull metallic green, shining. *Face* very broad, *with a faint* shifting *white gloss*; front green or cyaneous. Abdomen not distinctly banded, belly pale. *Legs pale yellow,* posterior coxæ with the base grey in the male only; *tarsi dusky* except at the base; they are *simple,* and the *fore femora pectinated,* in both sexes.

Rare. In Messrs. Curtis and Haliday's collections. (E.)

Obs. The number and length of the appendages of the hypopygium, in this and the species which follow, are nearly as in *P. Wiedemannii,* with some differences in form and pubescence.

5. **lugens,** Mg. zw. iv. 38. 6 (1824); Mq.; Ztt. *Læte æneo-viridis, fronte et hypostomate albo-micantibus, pedibus pallidis, tarsis fuscis simplicibus, femoribus anticis pectinatis.* Long. 1½–2 lin.

Like *P. longulus,* but of a *brighter metallic green*; the *face with a decided white gloss extending to the front* also. The differences seem scarcely sufficient to separate the two.

Rare. In Mr. Stephens's collection. (E.)

6. **contristans,** Wd. z. m. i. 72. 19 (1817); Fln.; Ztt.—*regalis,* Mg. (*fœm.*) *Opacus glaucus,* capite albido, *abdomine nigro-fasciato, pedibus pallidis, tarsis fuscis simplicibus; Mas. femoribus anticis nudis.* Long. 1½–2; alar. 4 lin.

Greenish-grey, almost *without metallic shine.* Face and front glossy white. *Abdomen with* determinate dusky, or purplish-*black bands,* which are broader in the middle. The colour of the *legs,* and of the base of the antennæ, is a dull *yellowish*; the *tarsi* are *dusky,* except the base, and *simple* in both sexes. The *fore femora of the male* are *bare* of spines or long hairs.

Not common; but extant in the principal collections of British *Diptera.* (E.)

Obs. P. contristans, Mg. (zw. iv. 37. 4), is not the same species, but rather resembles *P. Wiedemannii,* with which it agrees in the character of the fore legs of the male; but the structure of the hypopygium is different, the undermost of the four appen-

dages disappearing, according to the description and figures given by Zeller, in the 'Isis' of 1842. Introduced into the British catalogues, probably by confusion with *P. contristans*, Wd., or else for *P. Wiedemannii*.

P. lobipes, Mg. zw. iv. 38. 5, which has also found its way into the list, resembles *P. contristans*, but it, too, has the fourth joint of the fore tarsi bilobed in the male, and the fore femora slightly pectinated beneath towards the base.

The fore coxæ, and the first half of the fore femora beneath, are pectinated with a few long pale spines, in the females of all the species; and in the males of some, but more slightly.

Genus II. **SYBISTROMA.**

SYBISTROMA, Mg. zw. (1824); Mq.; Stg.; Zlr. *Dolichopus* p., Fln.; Lhm.; Ztt.; Stn.; Zlr.; Ahr. *Hypophyllus*, Hal. *Medeterus* p., Mq.

Antennæ articulo tertio apice attenuato, arista dorsali sinuata. Proboscis capite brevior. Hypopygium maris pallidum petiolatum, appendicibus tenuibus apice fimbriatis.

Eyes pubescent, separated in both sexes; face very narrow in the male; lower orbit with fine pale cilia. Proboscis very short. *Third joint of the antennæ tapering* almost to a point; *arista inserted above* near the middle of it, slender, almost naked, the *penultimate joint* extending beyond the end of the third, sometimes very long, *curved and forming a slight angle with the last joint.* Wings with the præbrachial vein approaching the cubital towards the end in a gentle sweep (as in many of the *Dolichopi*). Abdomen rather slender, tapering; in the *male* somewhat compressed, with the sixth segment about as long as the fifth, but destitute of bristles; the inflected *hypopygium pale* except at the base, oblong, somewhat compressed, suspended *on a petiole* formed of the slender seventh segment, and furnished with several *appendages fringed at the tip*; the outer pair *not* much *enlarged* nor freely movable. Legs with few spines on the tibiæ, and none on the hind metatarsus, which is shorter than the following joint.

1. **discipes,** Ahr. fn. iv. 24 (1817); Lhm.! Mg.; Stg.—*patellata*, Fln.; Ztt.—*patellipes*, Mg.—*ventralis*, Ztt. (*fœm.*)? *Obscure ænea*, capite albido, palpis ferrugineis, *pedibus pallidis, alulis pallido-ciliatis; Mas. aristæ articulo primo longissimo, tarsorum anticorum articulo ultimo patelliformi atro.* Long. 2½; alar. 5 lin.

Brassy-olive, not shining; face white, front duller whitish. Palpi ferruginous. Antennæ black; third joint, except the base, brown or ferruginous, long and pointed in the *male*, which has the *penultimate joint of the* long *arista thrice the length of the last joint*, while it is short in

the female. Wings brownish; *fringe of the alulæ pale.* Appendages of the hypopygium black at the tip, with pale curled hairs. Belly pale. *Legs pale* yellow; tarsi dusky, except the first joint. In the *male* the legs are excessively long, the *fore tarsi* pale, *with the last joint black,* compressed, *pallet-shaped.*

Rare. In the British Museum and other collections. (E.)

2. **obscurella,** Fln. d. s. dol. 13. 11 (1823); Stn.; Hal.; Ztt.—*appendiculata,* Mq.; Stg.—*plebeja,* Mg. (*fœm.*). *Obscure ænea,* capite albido, palpis nigris, *pedibus pallidis, alulis fusco-ciliatis, tarsis simplicibus.* Long. 1½–2; alar. 4 lin.

Brassy blackish-green, not shining; front and face whitish, face clear white in the male. Palpi black. Antennæ black, third joint at the end reddish-brown, longer in the male, in which also the penultimate joint is half as long as the last, but much less in the female. Wings brownish, *fringe of the alulæ dusky.* Appendages of the hypopygium dusky at the tip, with pale curled hairs. *Legs pale* yellow; *tarsi* darker except the first joint, *simple* in both sexes.—Very like the preceding, but smaller, and the legs shorter, especially in the male.

Common about rivulets in the shade. (E. S. I.)

3. **fulvicaudis,** (Ct. MSS.) *Obscure ænea,* capite albido, *antennis et abdomine basi ferrugineis, pedibus pallidis, Mas.* Long. 1½ lin.

Dull brassy-green, with a hoary tinge; face clear white. Palpi yellowish. *Antennæ ferruginous,* with *the end* of the third joint *dusky*; penultimate joint not elongated. Wings hyaline, fringe of the alulæ pale. *First two segments of the abdomen* somewhat pellucid *ferruginous,* with their hind margin brassy, more largely in the second. Hypopygium with the outer pair of appendages small, but somewhat dilated, blackish-brown, fringed with paler hairs, their margin crenulated. *Legs* very *pale* yellowish; tarsi darker towards the end, simple.

A male found near Bristol; in Mr. Curtis's collection. (E.)

Genus III. **DOLICHOPUS.**

Dolichopus, Mg. (1824); Stn.; Hal.; Stg.; et *Ammobates,* Stn.; Stg. *Dolichopus* p., Ll. (1796); Fb. s. a.; Fln.; Ztt. *Satyra* p., Mg. (1803). *Musca* p., L.; Spl.; Gfr.; Mlr.; Hrs.; Gm.; Rsi.; Shr. *Orthoceratium* p., Shr.

Antennæ articulo tertio apice attenuato, arista dorsali sinuata. Proboscis capite brevior. Hypopygium maris extricatum, obscurum, lamellis geminis externis patulis.

Generally stouter than the others of the family. Eyes pubescent, separated; face usually very narrow in the male; cilia of the lower orbit black, or pale; supercilia black spines. *Proboscis* usually very *short,* never as long as the head. *Antennæ with the third joint tapering,*

sometimes long and pointed in the male; the compressed tip often slightly pellucid brown when the rest is black; *arista seated above*, about the middle of it, or nearer to the tip, finely pubescent or naked, the *penultimate joint* extending beyond the third, but generally shorter than the last, *curved and forming a slight* (or indistinct) *angle with the last.* Scutellum usually flat and naked on the disc, sometimes slightly pubescent (sp. 47–50). Metathoracic epimera larger than common, partly concealing the sides of the first segment of the abdomen. Wings with the discal transverse vein placed at about their half-length, its distance from the hind margin (measured on the continuation of the pobrachial) more than its own length; præbrachial vein approaching the cubital towards the end in a curve, or with a sudden twist, rarely forming two alternate right angles with a rudimentary branch (sp. 35–37). The wings often differ in the sexes; the costal vein being thickened near its junction with the subcostal, or hind margin sinuated, or the markings different, in the male.* The hairs which fringe the alulæ are either black or pale; in species 39–42 they have both black hairs and pale pubescence. Abdomen conical, somewhat compressed behind; the sixth segment in the male exserted, but short, glossy-tomentose without bristles. *Hypopygium* long, somewhat compressed, *dark-coloured, free*, but scarcely petiolate, the seventh segment being very short: the *outer pair of appendages* enlarged into *plates*, slightly concave, somewhat like a bivalve shell, *freely articulated* by the narrow base, the margin fringed and usually jagged at the end; these, in conjunction with a compressed lobe of each lateral margin of the hypopygium next the belly, nearly conceal the other appendages excepting the uppermost one ("aculeus"); but in some of those with unarmed metatarsi an exterior forceps with slender arms is visible. In the species 39–42, which Stannius has treated as a peculiar genus, *Ammobates*, the appendages are singularly shaped, especially the aculeus, which is notched or toothed and attenuated at the end into a curved spine. Each species has some peculiarity in the form of these parts. The hind tibiæ are rather thickly spined; in many also the hind metatarsus is spined; and in a few the posterior femora have more than one spine towards the tip, (these are liable to be broken off, but the sockets are visible as black dots). In the males the tarsi are often peculiarly formed or marked, or the femora fringed beneath, or the tibiæ thickened, mostly the hind pair, which have also a sort of variole in some (e. g., sp. 17, 27).

This extensive genus has obtained the particular attention of authors. The admirable monograph by Stannius in the 'Isis' for 1831, and that of the Danish species by Stæger, in Kröyer's 'Naturhist. Tidsskrift' (1842), deserve particular mention.

* These distinctions have been minutely examined in most of the species, and illustrated with figures, by Macquart in Ann. Soc. Ent. Fr. ser. 2. t. ii. pl. 4, 5.

The British species being pretty numerous, the following scheme may assist in the investigation of them :—

A. Hind metatarsus spiny.
  B. Cilia of the lower orbit black.
    a. Metatarsus with numerous spines (more than ten, in the male at least). Species 1, 2.
    a a. Metatarsus with few spines (less than ten).
      b. Fore coxæ blackish.
        c. Lamellæ of male dusky. Species 3.
        c c. Lamellæ pale.
          d. Middle tarsi enlarged at the tip, in male. Species 4.
          d d. Fore tarsi enlarged at the tip, in male. Species 5, 6.
          d d d. Anterior tarsi simple in both sexes. Species 7, 8.
      b b. Fore coxæ pale in part.
        e. Posterior femora with several spines. Species 9.
        e e. Posterior femora with single spine. Species 10, 11.
  B B. Cilia of the lower orbit pale.
    f. Face not descending lower than the eyes.
      g. Flexure of subapical vein obtuse-angled, simple.
        h. First joint of antennæ entirely black. Species 12–14.
        h h. First joint of antennæ pale, at least in part beneath.
          i. Middle tarsi of male marked.
            k. With a white spot. Species 15.
            k k. Partially enlarged.
              l. Posterior femora with a single spine. Species 16, 17.
              l l. Posterior femora with several spines. Species 18.
          i i. Fore tarsi enlarged at the tip, in male.
            m. Posterior femora with several spines. Species 19.
            m m. Posterior femora with a single spine. Species 20, 21.
          i i i. Anterior tarsi not enlarged in either sex.
            n. Hind femora not fringed in either sex.
              o. Costal vein swelled about the junction with the subcostal, in male. Species 22–24.
              o o. Costal vein nearly simple in both sexes. Species 25–28.
            n n. Hind femora fringed beneath, in male.
              p. Femora dusky. Species 29, 30.
              p p. Femora yellow.
                q. Costal vein without swelling. Species 31, 32.
                q q. Costal vein with a swelling, in male. Species 33, 34.
      g g. Fracture of subapical vein forming alternate right angles, with a rudiment of a branch. Species 35, 36.
    f f. Face descending lower than the eyes.

r. Second joint of antennæ shortest. Species 37.
r r. Second joint of antennæ as long as first or third. Sp. 38.
A A. Hind metatarsus without spines.
C. Cilia of the lower orbit pale.
s. Face descending at least as low as the eyes. Species 39–42.
s s. Face not descending as low as the eyes. Species 43–46.
C C. Cilia of the lower orbit black.
t. Disc of scutellum pubescent.
u. Femora dusky. Species 47.
u u. Femora and tibiæ pale. Species 52.
t t. Disc of scutellum glabrous.
v. Femora yellow. Species 48, 49.
v v. Femora dusky. Species 51.

Section A. *Hind metatarsus spined.*

These may be considered as the typical portion of the genus. The lamellæ of the male are usually dingy white (sometimes yellowish), edged with black and fringed; but dusky in species 3. The first eleven species have the cilia of the lower orbit black; as are also the antennæ, palpi, and the fringe of the alulæ.

1. **atratus,** Mg. zw. iv. 76. 3 (1824); Mq.; Stn.; Hal. *Atro-virens, hypostomate albido, pedibus nigris, femoribus posterioribus unispinosis, alis dimidio exteriore nigricante; Mas. tibiis et metatarsis posticis dense hispidis,* alarum plaga saturatius nigra. Long. 2¼; alar. 4½ lin.

Metallic *blackish-green.* Antennæ with the third joint somewhat pointed. *Face* dull silvery *white. Wings blackish in the outer half,* particularly in front, more intensely and determinately so in the male. Black edge of lamellæ narrow. *Legs* dull *black. Posterior femora with a single spine* (as in most). *Hind tibiæ and metatarsus thick-set with spines in the male* (nearly twenty on each; but only an ordinary number in the female).

Common in swamps among mountains. (E. S. I.)

Obs. D. maculipennis, Ztt. d. s. 520. 17, an allied species, differs, having two spines on the posterior femora, and the face dull grey, not so narrow in the male.

2. **picipes,** Mg. zw. iv. 76. 4 (1824). *Obscure æneus, hypostomate albo, pedibus piceis, alis fuscanis, tibiis et metatarsis posticis dense hispidis.* Long. 2½ lin.

Front blackish in male, white in female. *Face* silvery *white. Thorax* dark golden green, the sides slate-grey. *Abdomen metallic green,* in some lights with bluish-grey reflections, the incisures black (as is the case more or less with most of the species). *Wings* entirely *dusky,* rather darker at the fore edge. Black edge of lamellæ very narrow. *Legs piceous, hind tibia and metatarsus* very *thickly spined* on the outside.

The specimen in Mr. Stephens's collection, under this name (a female), has the anterior tibiæ ferruginous. The posterior femora bear a single spine. See species 7.

3. **fulgidus,** Fln. dol. 15. 18 (1823); Ztt.—*campestris*, Mg.; Stn.; Mq.; Hal.; Stg.; Ztt. *Atro-virens, metatarsis anterioribus et tibiis ferrugineis, femoribus intermediis bispinosis; Mas. femoribus posticis breviter fusco-ciliatis, lamellis fuscis, hypostomate ochraceo; Fœm. hypostomate cano.* Long. 2¼; alar. 4½ lin.

Metallic *blackish-green. Face* dull *yellow in male, grey in female.* Wings hyaline, the hind edge waved in the male. *Lamellæ* of male *dusky. Legs black; tibiæ ferruginous,* hind pair black at the very tip; *first joint of anterior tarsi ferruginous. Intermediate femora with two spines; hind pair* with one, and *in the male fringed* beneath *with* very *short dusky hairs.*

Not rare. (E. S. I.)

4. **planitarsis,** Fln. dol. 12. 8 (1823); Mg.; Mq.; Stn.; Hal.; Stg.; Ztt. *Atro-virens, hypostomate albo, tibiis tarsisque anterioribus ferrugineis; Mas. tarsis intermediis articulo ultimo dilatato atro.* Long. 2½; alar. 4½ lin.

Metallic *blackish-green. Face white.* Wings hyaline. Black edge of the lamellæ very narrow. Hind legs black; the *anterior tibiæ* with the tip of the femora, *and* the *tarsi* except the tip, dull *ferruginous.* In the *male* the *last joint of the middle tarsi* is somewhat *enlarged* and feathered, *deep black.*

Rare. (E. I.)

5. **melanopus,** Mg. zw. iv. 86. 21 (1824); Mq.; Stg.; Ztt. *Obscure æneus, hypostomate albo, pedibus nigris; Mas. tarsis anticis articulo ultimo dilatato atro, femoribus posticis nigro-ciliatis, alis lineola costali nigra.* Long 2; alar. 4 lin.

Dark brassy. Face white, duller in female. *Wings* rather short, hyaline, *with a black costal swelling in male.* Black edge of lamellæ broad. Legs black. The *male* has the *fore tarsus* longer than the tibia, the third and fourth joints brownish, the *fifth joint dilated,* round, *deep black*; the *hind femora fringed beneath with black hairs.*

Rare. In Mr. Dale's collection. (E.)

6. **nigripes,** Fln. dol. 10. 3 (1823); Stg.; Ztt.—*melanopus*, Stn. *Atro-virens, hypostomate albido, tarsis anticis medio et genubus ferrugineis; Mas. tarsis anticis articulo ultimo dilatato atro, femoribus posterioribus basi breviter albido-ciliatis, alis lineola costali nigra.* Long. 2⅓; alar. 4½ lin.

Metallic *blackish-green*; front steel-blue. *Face white,* duller in female. *Wings* narrower and longer than in the last, hyaline, dusky at the fore edge, *with a black costal swelling in male*; obscure hyaline in female. Blackish edge of lamellæ narrow. Anterior legs in *male* black, with

ferruginous knees, the *fore tarsus* much longer than the tibia, *with the intermediate joints yellowish*, and the *last* somewhat *dilated, deep black*; in the female piceous, with the *knees ferruginous*, the extreme base of the metatarsi pale, and the intermediate joints of the fore tarsus light brown; hind legs black, *femora in male ciliated towards the base with short white hairs.*

Rare. In Mr. Dale's collection. (E.)

7. **fastuosus,** Hal. z. j. v. 360. 8 (1831).—*picipes*, Stn.; Stg.; Ztt. d. s.—*plebejus*, Ztt. lap. *Atro-virens, hypostomate albo, pedibus nigris; Mas. femoribus posticis breviter fusco-ciliatis, alis antice infuscatis postice emarginatis.* Long. $2\frac{1}{2}$; alar. $4\frac{2}{3}$ lin.

Metallic *blackish-green. Face white*, duller in the female. *Wings in male* obscure hyaline, *dusky at the fore edge*, narrow, *the hind margin* being strongly *sinuated*; in the female broader, and more generally tinged with brown. Black edge of lamellæ narrow. *Legs* long, *black*, with a ferruginous dot at the knees, and the extreme base of the anterior metatarsi pale; *hind femora in male fringed with very short dusky hairs.*

Not rare in woods. (E. S. I.)

I have not ventured to follow Stannius in considering this to be *D. picipes*, Mg., as the hind tibia and metatarsus are not more bristly than usual.

8. **rupestris,** Hal. e. m. i. 164 (1833).—*festinans*, Ztt.—*fuscimanus*, Ztt. *Fusco-æneus, femoribus tibiisque ferrugineis, posticis apice nigris; Mas. tibiis posticis subincrassatis, hypostomate ochraceo; Fœm. hypostomate canescente.* Long. $1\frac{2}{3}$; alar. $3\frac{1}{3}$ lin.

Dull brassy-brown. Face ochre-brown *in male*, dull *grey in female.* Wings hyaline, with a mere dot for the costal swelling in the male. Lamellæ dingy yellowish, with dusky edge. Coxæ blackish, glossed with grey; trochanters dusky; *femora ferruginous*, the fore pair often dusky from the base to the middle or more, the others, or the *hind pair* only, *dusky at the tip; tibiæ ferruginous*, the *hind pair black at the tip, in the male slightly thickened* above the middle, with a small denuded space and an impression there. Anterior tarsi dusky with the metatarsus mostly ferruginous, the hind pair black. Smaller than species 13.

Not rare, on mountains. (E. S. I.)

9. **æneus,** Dg. vi. 104. 15 (1776).—*ungulatus*, L.? s. n. x.; Shr.; Rsi.; Pz.; Fln.; Mg.; Mq.; Stn.; Hal.; Stg.; Ztt.; Grn.! ic. 96. 4.—Var. *chalybeus*, Mg.—Var. *nigricornis*, Mg.; Mq. *Viridi-æneus, hypostomate albo, antennis nigris, pedibus luteis, tibiis posticis apice tarsisque nigris, femoribus posterioribus pluri-spinosis; Mas. femoribus nigro-ciliatis*, alis lineola costali nigra. Long. $2\frac{1}{2}$; alar. $4\frac{2}{3}$ lin.

Brassy-green, varying to coppery, more rarely steel-blue. *Face white*, sometimes straw-colour in the male. Wings hyaline, with a black costal swelling in male; smoky hyaline in female. Lamellæ dingy

yellowish-white, with a broad black border. *Legs*, and the tip of the fore coxæ, *tawny yellow; hind tibiæ black at the end* to about a fourth of their length; *tarsi black*, anterior metatarsi yellowish. *Posterior femora with three to five spines* in a row between the middle and the tip. *All the femora in the male fringed* beneath in the outer half *with blackish hairs*, longest on the hind pair. One of the largest species, and very stout.

Abundant on the rank herbage about drains. (E. S. I.)

Obs. Musca ungulata, L. (fn. i. 1053), originally denoted a different insect (see *Hydrophorus binotatus*); and that trivial name has been since applied so variously that it seems best to drop it entirely.

10. **brevipennis,** Mg. iv. 89. 27 (1824); Stn.; Hal.; Stg.; Ztt. —*plumitarsis* var., Fln.—*ungulatus*, L.? s. n. xii. *Æneo-viridis, antennis nigris, pedibus luteis, posticorum tibiis apice tarsisque nigris; Mas. tarsis anticis articulis duobus extremis compressis atris, quinto latissimo, femoribus posticis pallido-ciliatis*, alis lineola costali nigra, *hypostomate ochraceo; Fœm. hypostomate cano.* Long. $2\frac{1}{2}$; alar. $4\frac{2}{3}$ lin.

Brassy-green. Face ochre-*yellow in male, whitish in female.* Wings hyaline, with a black costal swelling, in male; smoky hyaline in female. Lamellæ dingy yellow, with a very broad blackish border. *Legs*, and tip of the fore coxæ, *tawny yellow*; trochanters brownish; *hind tibiæ* black *at the end*, to a fourth of their length in the female, in the male to a full third; *tarsi black*: first three joints of fore pair, and metatarsus of the middle pair, yellowish. In the *male* the *hind femora* are *fringed with pale* yellow *hairs*, the *fore tarsi* are slender, half as long again as the tibia, the *fourth and fifth joints deep black*, short, *compressed*, and ciliated on the upper edge, the *fifth* much the *broadest, pallet-shaped.*

Common in swampy spots. (E. S. I.)

11. **equestris,** Hal. z. j. v. 359. 4 (1831).—*cinctus*, Stg.—*Stægeri*, Ztt. *Æneo-viridis, hypostomate albo, antennis nigris, pedibus flavis, posticorum tibiis apice tarsisque nigris; Mas. tarsis anticis articulo ultimo compresso atro, femoribus posticis nigro-ciliatis*, alis lineola costali nigra. Long. 2; alar. 4 lin.

Brassy-green. Face white. Wings hyaline, with a slight black costal swelling in the male. Black edge of lamellæ narrow. *Legs* and fore coxæ *yellow*, the latter at the base blackish-grey. *Hind tibiæ at the tip and tarsi black*, anterior metatarsi yellowish. *In the male* the *fore tarsus* is considerably longer than the tibia, with the intermediate joints brownish, the *fifth joint* shortest, *compressed, deep black*, (much smaller in proportion than in the preceding species;) the *hind femora* are *fringed with black hairs.*

Rare. In Mr. Haliday's collection. (I.)

In the rest (species 12–38), the cilia of the lower orbit are silvery-white or straw-colour; the fringe of the alulæ usually blackish; the palpi yellow, except in the first three following.

12. **atripes,** Mg. zw. iv. 102. 51 (1824); Stn. *Atro-virens, antennis pedibusque nigris, alis fuscanis, hypostomate ochraceo, Mas.; aut cano, Fœm.* Long. 2; alar. 4 lin.

Dark brassy-green. Face ochre in the male, dull *whitish in the female. Antennæ* and palpi *black.* Scutellum slightly pubescent on the disc. *Wings dusky* hyaline, darker at the fore edge in the male. Lamellæ much curved, dingy yellowish-white, with dusky pubescence, the tip blackish, very slightly ciliated. *Legs black*; a ferruginous dot at the knee, and at the base of the metatarsus of the anterior pairs; which are sometimes piceous, or the fore tibiæ yet paler. Smaller than species 3.

Not common. (E. S. I.)

13. **phæopus,** (Hal., MSS.) *Atro-virens, hypostomate candido, antennis nigris, pedibus piceis, tibiis anticis pallescentibus, alis obscure hyalinis.* Long. $1\frac{2}{3}$; alar. $3\frac{1}{3}$ lin.

Dark brassy-green. Face silvery-*white. Antennæ* and palpi *black. Wings dusky hyaline,* with the costal swelling reduced to a mere dot, as in the next. Lamellæ rather oblong-ovate, dingy-white, with a narrow black edge, the tip jagged and ciliated (as is usual). *Legs piceous*; the *fore* pair lighter, with the *tibiæ* rather *pale*; the hind tibiæ and tarsi blackish.

Rare. In Mr. Haliday's collection. (I.)

Obs. D. brachycerus, Ztt. d. s. 526. 22, may perhaps be the other sex of this species. See also *D. nigripes,* Mg. zw. vii. 164. 64.

14. **vitripennis,** Mg. zw. iv. 78. 7 (1824); Stn.; Hal.—*tibiellus,* Ztt. *Atro-virens, hypostomate candido, antennis pedibusque nigris, tibiis ferrugineis, alis hyalinis; Mas. alis postice subsinuatis.* Long. $1\frac{3}{4}$; alar. $3\frac{1}{2}$ lin.

Dark brassy-green, or bluish-green. *Face white. Antennæ* and palpi *black. Wings* broad, hyaline; *in the male the hind margin* is *slightly sinuated,* and the costal swelling a mere dot. Lamellæ somewhat triangular, dingy-white, the black edge narrow and ciliated at the tip. *Legs black,* the *tibiæ,* the tip of the knees, and the anterior metatarsi *ferruginous,* the latter and the hind tibiæ blackish at the tip.

Not rare. (E. S. I.)

15. **urbanus,** Mg. zw. iv. 92. 31 (1824); Stn.; Hal.; Stg.; Ztt. *Viridi-æneus, hypostomate albo, antennis luteis apice nigris, pedibus flavis, tibiis tarsisque posticis nigris, alis fuscanis; Mas. tarsis intermediis articulo ultimo candido, femoribus posticis bispinosis, alis postice emarginatis.* Long. $2\frac{1}{4}$; alar. $4\frac{1}{2}$ lin.

Brassy-green. Face silvery-*white,* duller in the female. *Antennæ tawny yellow, third joint black,* with a small yellow spot at the base.

Wings brownish; darker along the fore edge, and *sinuated at the hind edge in the male.* Black edge of the lamellæ rather narrow, deeply jagged at the tip. *Legs* and fore coxæ *yellow*; fore coxæ with a whitish gloss in the male: femora, especially the hind pair, dusky above towards the tip; *hind tibiæ black*, dusky towards the base and paler there; *hind tarsi black*, the first two joints of the others yellow. *In the male the last joint of the middle tarsi* is *white*, the preceding joint deep black, and the *hind femora* bear *two*, rarely three *spines.*

Not common. (E. S. I.)

16. **plumipes,** Spl. carn. 895 (1763).—*pennitarsis*, Fln.; Mg.; Mq.; Stn.; Hal.; Stg.; Ztt.—Var. *Wahlbergi*, Ztt. *Æneo-viridis, antennis luteis, articulo ultimo apice nigro, pedibus flavis, tibiis posticis apice tarsisque nigris, metatarso antico flavido; Mas. metatarso intermedio atro-pennato, alis postice emarginatis, hypostomate flavo; Fœm. hypostomate albido.* Long. 2; alar. 4 lin.

Brassy or gilded *green. Face* golden-*yellow in male*, yellowish-*white in female. Antennæ tawny yellow*, the upper edge and *tip of the third joint blackish. Wings* hyaline; the costal swelling a mere dot, and the *hind edge sinuated in the male.* Black edge of the lamellæ narrow, somewhat jagged at the tip. *Legs* and fore coxæ *yellow; tarsi and tip of hind tibiæ black; fore metatarsus yellowish. In the male* the *middle* pair have the tibiæ long and slender, with a denuded streak down the outer edge, which is sometimes dusky; the *metatarsus* long, and *feathered* on each side with *black* bristles. Varies, more rarely, with the hind tibiæ immaculate, and the hind metatarsus pale tipped with brown.

Common and generally diffused. (E. S. I.)

17. **pennatus,** Mg. zw. iv. 90. 28 (1824); Mq.; Stn.; Hal.; Ztt. —*signatus*, Mg.; Mq.; Stg.—*popularis* var., Fln. *Æneo-viridis, antennis basi subtus luteis, pedibus flavis, tarsis nigris, metatarsis anterioribus flavis; Mas. tarsis intermediis articulis secundo et tertio dilatatis atris, quarto et quinto albo-micantibus, tibiis posticis incrassatis, alis postice emarginatis, hypostomate flavo; Fœm. hypostomate albido.* Long. $2\frac{1}{3}$; alar. $4\frac{1}{2}$ lin.

Brassy-green. Face golden-*yellow in male*, yellowish-*white in female. Antennæ black, first joint tawny yellow, with the upper edge black. Wings* obscure hyaline, with the *hind edge sinuated in the male.* Black edge of lamellæ narrow, deeply jagged at the tip. *Legs* and fore coxæ *yellow; tarsi black, anterior metatarsi yellow. In the male* the first joint of the *middle tarsi* is as long as the four following together; these are compressed, the *second and third joints dilated*, and slightly feathered, *deep black*, the *fourth and fifth glossed with white* in front; the *hind tibiæ* are *thick*, and have a denuded space behind, with an impression above the middle.

Pretty common and generally diffused. (E. S. I.)

18. **popularis,** Wd. mag. ii. 70. 15 (1818); Fln.; Mg.; Mq.; Stn.; Hal.; Stg.; Ztt.—*ungulatus*, Fb. s. a. *Æneo-viridis, antennis luteis apice nigris, pedibus flavis, tarsis apice nigris, femoribus posticis pluri-spinosis; Mas. tarsis intermediis articulis tertio et quarto dilatatis atris, ultimo albo, alis postice emarginatis, hypostomate flavo; Fœm. hypostomate albido.* Long. $2\frac{1}{3}$; alar. $4\frac{1}{2}$ lin.

Brassy-green. Face golden-*yellow in male*, yellowish-*white in female. Antennæ tawny yellow*, third joint *blackish* above and *at the tip. Wings* hyaline, with the *hind edge sinuated in the male*; more obscure hyaline in female. Black edge of lamellæ narrow, somewhat jagged at the tip. *Legs* and fore coxæ *yellow; tarsi blackish, the base yellowish*, that is, the first two joints of the anterior tarsi, and the metatarsus of the hind pair. *Hind femora* usually *with three spines* (in male), or *two* (in female). *In the male* the *third and fourth joints of the middle tarsi* are *dilated* and *feathered, deep black, the last joint white.*

Pretty common and generally diffused. (E. S. I.)

19. **claviger,** Stn. isis, xxviii. 56. 9 (1831); Stg.; Ztt. *Aureo-viridis, hypostomate albo, antennis nigris basi subtus luteis, pedibus pallide flavis, tarsis apice posticis totis nigris, femoribus posterioribus plurispinosis; Mas. tarsis anticis tibia sesquilongioribus, articulo ultimo patelliformi atro, femoribus anticis et alulis pallido-ciliatis, alis lineola costali nigra.* Long. $2\frac{2}{3}$; alar. 5 lin.

Gilded-green. Face glossy *white* in male, dull white in female. *Antennæ black, lower edge of the first joint tawny yellow. Wings* hyaline; the flexure of the subapical vein very faint; *in the male with a black costal swelling. Fringe of alulæ pale in male*, partly black in female. Black edge of lamellæ broad, and jagged at the tip. *Legs and fore coxæ pale yellow*, the latter with a grey spot at the base; the tip of the hind tibiæ, the *hind tarsi*, the *middle pair except the metatarsus, and the tip of the fore pair, black. Posterior thighs with three spines* (rarely two or four). In the *male*, the *fore tarsus* is *half as long again as the tibia*, the joints decreasing in length to the fourth, *the fifth joint* about as long as this, *dilated*, rounded, *deep black*; the *fore femora* are *fringed with pale hairs* beneath towards the tip, and the black tip of the hind tibia contains a pale streak.

Rare. In Mr. Stephens's collection. (E.)

20. **discifer,** Stn. isis, xxviii. 57. 10 (1831); Stg.; Ztt. d. s.—*patellatus*, Mg.; Hal.—*confusus*, Ztt. lap. *Aureo-viridis, hypostomate albo, antennis nigris basi subtus luteis, pedibus pallide flavis, coxis anticis immaculatis, tarsis apice posticis totis nigris, alis vena subapicali levissime flexa; Mas. tarsis anticis tibia plus duplo longioribus, articulo ultimo brevissimo dilatato atro basi puncto albo.* Long. $2\frac{1}{2}$; alar. $4\frac{2}{3}$ lin.

Gilded-green. Face glossy *white* in male, dull white in female. *Antennæ black, the lower edge of the first joint tawny yellow.* Wings hyaline and rather narrow in male, broader and brownish in the female;

the *subapical vein with a very faint flexure*, ending in the costal margin farther from the tip of the wing than is usual in this section. Black edge of lamellæ narrow, jagged at the tip. *Legs pale yellow, fore coxæ pale yellow, immaculate*; the *hind tarsi*, the *middle pair except the metatarsus, and* the *last joint of the fore pair*, with a small spot at the tip of the hind tibiæ, *black*. The legs of *male* are very long, the fore coxæ naked and glossed with white, the *fore tarsus more than twice as long as the tibia* and very slender, the intermediate joints of equal length, the first rather longer, *the last joint extremely short, dilated, deep black, with a white speck at the base.*

Not common, in moist spots in elevated woods. (I.)

21. **confusus,** Ztt. d. s. 535. 29 (1843).—*patellatus*, Stn. (1831). *Æneo-viridis, fronte subcyanea, hypostomate albo, antennis nigris basi subtus luteis, pedibus flavis, coxis anticis basi cinereis, tarsis apice posticis totis nigris, alis vena subapicali geniculata; Mas. tarsis anticis tibia sesquilongioribus, articulo ultimo dilatato atro.* Long. $2\frac{1}{3}$; alar. $4\frac{2}{3}$ lin.

Brassy-green; front bluish-green; face white. Antennæ black, the lower edge of the first joint tawny yellow. Wings obscure hyaline, darker in the female; *flexure of subapical vein obtuse-angled*, sometimes with a rudiment of a branch. Black edge of lamellæ of moderate breadth, deeply jagged at the tip. *Legs yellow; fore coxæ* yellow, *with the base grey*; hind tibiæ dusky at the tip; *hind tarsi, middle pair except the metatarsus, and the tip of the fore pair black.* In the *male*, the *fore tarsus* is fully *half as long again as the tibia*, the joints decreasing in length to the fourth, which is a little compressed and pale, the *fifth joint* as long as the fourth, compressed, much *dilated*, somewhat triangular, *deep black.*

Rare. In the collections of Messrs. Curtis and Clifton. (E.)

Obs. D. plumitarsis, Fln. dol. 10. 4, which has been introduced into the British lists also, has the twist of the subapical vein almost rectangular, and the fore coxæ immaculate yellow; the last two joints of the fore tarsus in the male are dilated and feathered, black. I have not seen a native specimen of it.

22. **longicornis,** Stn. isis, xxviii. 53. 7 (1831); Ztt.—*acuticornis*, Fln.; Mg.; Mq.; Hal.; Stg. *Pallide æneus, antennis acuminatis flavis supra apiceque nigris, pedibus pallide flavis, tarsis apice posticis totis nigris; Mas. antennis capite longioribus*, tibiis posticis apice foveolatis, *alis lineola costali nigra, alulis pallido-ciliatis*, hypostomate flavescente; Fœm. hypostomate albido. Long. $1\frac{1}{2}$; alar. 3 lin.

Brassy-green, rather pale. Face in male pale yellowish, with silvery gloss; in female white. *Antennæ pointed, yellow, blackish on the upper edge, and to the tip* of the third joint; *in the male as long as the head is broad*, the third joint lanceolate, as long as the two preceding together, the tip curved upwards. *Wings in the male* hyaline, narrow, the anal

angle being much rounded away, *with* the *black costal swelling* stronger than in the next two; in female brownish-hyaline; bend of subapical vein very slight. *Fringe of alulæ pale in male. Legs* very *pale yellow*; middle coxæ outside and the base of the hind pair grey; *tip of the anterior tarsi* dusky, *and hind pair black.* In the male, only the last joint of the fore tarsus is dusky, the fore coxæ denuded of black pubescence, the tip of the hind tibia thickened and foveolated, sometimes dusky.

Not uncommon. (E. S. I.)

23. **acuticornis,** Wd. mag. ii. 74. 23 (1818); Stn.; Ztt.—*ruralis,* Mg.; Mq.; Stg. *Pallide æneus, hypostomate candido, antennis acuminatis nigris basi subtus luteis, pedibus pallide flavis, tibiis posticis apice tarsisque nigris, metatarso antico flavido; Mas. antennis capite longioribus, alis lineola costali nigra, alulis pallido-ciliatis.* Long. 1½; alar. 3 lin.

Brassy, with a *pale* bloom. Front usually bluish-green. Face silvery-white. *Antennæ pointed, black,* with the *under edge of the first joint tawny yellow,* spreading into a spot at the tip; *in the male* about *as long as the head is broad,* the third joint lanceolate, curved upwards at the tip, almost as long as the preceding two together. *Wings* brownish-hyaline; *in the male* rather narrow, *with a black costal swelling*; bend of subapical vein very slight. *Fringe of alulæ pale in male.* Forceps and internal appendages of hypopygium slender and longer than usual. *Legs* very *pale yellow*; posterior coxæ grey outside; *hind tibiæ black at the tip; fore* tarsi dusky with the *metatarsus* pale *yellowish*; posterior *tarsi black,* base of middle metatarsus pale brown. In the male the fore coxæ are denuded and glossed with white, and the intermediate joints of the hind tarsus a little compressed.

Not common, on sandy coasts. In Mr. Haliday's collection. (I.)

24. **linearis,** Mg. zw. iv. 84. 17 (1824); Hal.—Fœm. *parvulus,* Ztt. *Pallide æneus,* hypostomate candido, *antennis nigris basi luteis, pedibus pallide flavis, tarsis apice posticis totis nigris; Mas. alis lineola costali nigra.* Long. 1½; alar. 3 lin.

Brassy, with a *pale* bloom. Face silvery-white. *Antennæ black*; the *first joint yellow,* as long as the second and third together; the third somewhat triangular. *Wings* dark hyaline; rather narrow *in* the *male, with a black costal swelling*; bend of subapical vein very slight. Fringe of alulæ chiefly black. *Legs* very *pale yellow,* middle coxæ with grey spot outside; *hind tarsi, and* the *tips of the anterior* tarsi and hind tibiæ, *black.* Fore coxæ denuded in the male. Nearly allied to the preceding two, but the antennæ not longer than in the next; from which it differs, besides its inferior size, by the coxæ and anterior tarsi more largely yellow, the slighter flexure of the subapical vein, the clear white face, and by the several characters noticed as peculiar to the male.

Very rare, on sandy coasts. In Mr. Haliday's collection. (I.)

Obs. D. agilis, Stn. ib. 127. 22, seems to come very near to this, differing, however, by the stronger bend of the subapical vein, the anterior tarsi black with only the metatarsus pale, and the thickened tip of the hind tibiæ; but see Ztt. d. s. 3081.

25. **simplex,** Mg. (*mas.*) zw. iv. 85. 20 (1824); Stn.; Mq.; Stg.; Ztt.—*thalassinus,* Hal. *Æneo-viridis, antennis nigris basi luteis, pedibus flavis, tarsis nigris, metatarsis anterioribus flavidis,* hypostomate flavescente, *Mas.*; aut cano, *Fœm.* Long. 2; alar. 4 lin.

Brassy-green. Front usually bluish-green. Face in male pale yellowish, with silver gloss, in female dull whitish. *Antennæ blackish, the first joint* (and in the female the second also) entirely *tawny yellow.* Wings dark hyaline, rather brownish in female. *Legs,* fore coxæ entirely, and the tip of the hind pair, pale *yellow*; hind tibiæ with a blackish spot at the tip; *tarsi blackish, anterior metatarsi yellowish,* rather dusky in the second pair. Fore coxæ in male not entirely denuded.

Pretty common. (E. S. I.)

26. **lineatocornis,** Ztt. d. s. 538. 32 (1843). *Viridi-æneus, antennis nigris basi subtus luteis, pedibus flavis, tarsis nigris, metatarsis anterioribus flavidis,* hypostomate flavido, *Mas.*; aut cano, *Fœm.* Long. 2; alar. 4 lin.

Brassy-green. Face ochre-yellow in male, dull whitish in female. *Antennæ black, lower edge of first joint tawny yellow.* Wings dark hyaline. *Legs* and fore coxæ dull *yellow*; tip of hind tibia and the *tarsi blackish; anterior metatarsi yellowish.*

Rare. In Mr. Dale's collection. (E.)

27. **sabinus,** Hal. a. n. h. ii. 184 (1838).—*pictus,* Stg.; Ztt. *Æneus,* hypostomate candido, *antennis nigris basi subtus luteis, pedibus flavis, tibiis posticis apice tarsisque nigris, his basi flavidis; Mas. alis lineola costali nigra, maculaque subapicali fusca.* Long. $1\frac{2}{3}$; alar. $3\frac{1}{3}$ lin.

Brassy. Front metallic green. Face silvery-white. *Antennæ black, the lower edge of the first two joints tawny yellow,* extending to the base of the third. *Wings* dark hyaline, immaculate in the female, *in the male with a dusky spot along the fore edge in the outer half, and* the *black costal swelling* short. *Legs* and fore coxæ *yellow, hind tibiæ blackish at the tip; tarsi black; base of the metatarsi yellow,* more largely in the anterior pairs. Hind tibia rather thick in the male, with an impression behind above the middle.

Rare. In Mr. Haliday's collection. (I.)

28. **nubilus,** Mg. zw. iv. 76. 39 (1824); Stn.; Stg.; Ztt.—*inquinatus,* Hal. *Obscure æneo-viridis,* hypostomate candido, *antennis nigris puncto infero lutescente, pedibus flavis, femoribus tibiisque posticis*

apice tarsisque nigris; Mas. alis versus apicem antice infuscatis, *alulis pallido-ciliatis.*—Var. *pallipes,* Mq.—*actæus,* Hal. *Viridi-cyaneus,* alis immaculatis. Long. 2; alar. 4 lin.

Dark brassy-green. Front bluish-green, with a faint hoary shade. Face silvery-white in male, dull white in female. *Antennæ black, with an ochre-brown dot beneath at the tip of the first joint.* Wings dark hyaline; in the male clouded with brown along the fore edge in the outer half. *Fringe of alulæ pale in male.* Lamellæ dingy white, truncated at the end, not jagged and scarcely ciliated, with a very narrow dusky edge; forceps prominent, with broad, foliaceous, curved, obtuse arms. *Legs yellow*; fore coxæ yellow, usually with a grey spot at the base, in the male glossed with white; *hind femora* with a dusky spot *at tip; tip of hind tibia and the tarsi black,* anterior metatarsi yellowish, tipped with black. *The variety* is usually smaller; *dark bluish-green*; wings immaculate; legs paler yellow, fore coxæ immaculate.

Common on the sea-coast. (E. S. I.)

29. **clavipes,** Hal. z. j. v. 365. 23 (1831).—*vitripennis,* Stg.—*trochanteratus,* Ztt.—Fœm. *fuscipes,* Hal. *Obscure æneus,* hypostomate candido, *antennis nigris basi subtus lutescentibus, pedibus fuscis, trochanteribus tibiisque flavidis, tibiis posticis apice nigris; Mas. tibiis posticis incrassatis, femoribus posticis pallido-ciliatis.* Long. $1\frac{3}{4}$; alar. $3\frac{1}{2}$ lin.

Dull *brassy-brown*; front sometimes greenish. Face silvery-white. *Antennæ black; lower edge of the first joint ochre-brown,* more largely at the tip. Wings hyaline, darker in the female; black costal swelling in male reduced almost to a dot. *Coxæ and femora dusky*; the tip of fore coxæ, and a line down the middle of the hind femora, sometimes paler; *trochanters, tibiæ,* and anterior metatarsi *pale ochre, tip of* the latter and of the *hind tibiæ, and* the rest of *the tarsi black. In the male, the hind tibiæ* are *thick,* especially about the middle, with a denuded and slightly impressed streak behind, the black extending over more than half their length; the *hind femora fringed with pale bristles.*

Not rare on the sea-coast. (E. S. I.)

30. **punctum,** Mg. zw. iv. 85. 19 (1824); Stn.; Ztt.—*signifer,* Hal. *Chalybeus,* hypostomate candido, *antennis nigris puncto infero lutescente, pedibus fuscis trochanteribus genubus tibiisque flavidis, tibiis posticis apice nigris, alis hyalinis macula apicali nigricante, femoribus posticis nigro-ciliatis, Mas.* Long. $1\frac{3}{4}$; alar. $3\frac{1}{2}$ lin.

Steel-blue, or brassy-green. Face silvery-white. *Antennæ black,* with *a tawny yellow spot beneath* at the tip of the third joint. *Wings hyaline with a blackish spot occupying the tip,* the costal swelling scarcely marked. *Coxæ and* fore *femora dusky,* the latter *yellowish at the tip*; posterior femora tawny yellow, with the upper edge almost entirely, the lower at the base, dusky; *hind femora fringed with* long *blackish hairs; trochanters, tibiæ,* and anterior metatarsi, tawny *yellow; the tip of* the

latter, and of the *hind tibiæ* (to nearly the half length), *and* the rest of *the tarsi, black.* Female unknown, wings probably immaculate.

Rare. On a sandy islet off the western coast. In Mr. Haliday's collection. (I.)

31. **arbustorum,** Stn. isis, xxviii. 125. 20 (1831). *Viridi-aureus,* hypostomate albido, *antennis luteis supra apiceque fuscis, pedibus pallidis, tarsis nigris, metatarsis anterioribus pallidis; Mas. femoribus posticis pallido-ciliatis, tarsis imberbibus.* Long. 2; alar. 4 lin.

Gilded-green. Front bluish-green. Face yellowish-white, with silvery gloss in the male. *Antennæ tawny yellow, the upper edge* of the first two joints *dusky*; the *third joint* short triangular, rather obtuse, almost entirely *dusky.* Wings smoky-hyaline, without costal swelling. *Legs* very *pale* yellowish, posterior coxæ greyish at the base outside; *tarsi blackish, anterior metatarsi pale. In the male,* the fore coxæ are denuded of black pubescence; the *fore tarsus* about half as long again as the tibiæ, *with no peculiar pubescence*; the *hind femora fringed with* long *pale hairs.*

Rare. In Messrs. Stephens and Walker's collection.

32. **virgultorum,** (Hal., MSS.)—*arbustorum,* Ztt. d. s. 551. 42. *Viridi-aureus,* hypostomate albido, *antennis luteis apice fuscis, pedibus pallidis, tarsis nigris basi pallidis; Mas. femoribus posticis pallido-ciliatis, tarsorum anticorum articulis intermediis subtiliter hirtis.* Long. 2; alar. 4 lin.

Gilded-green. Face yellowish-white, with silvery gloss in the male. *Antennæ tawny yellow*; third joint triangular, rather longer and more acute than in the preceding, *dusky at the tip.* Wings smoky-hyaline, without a costal swelling. *Legs* very *pale* yellowish; middle coxæ with a greyish spot at the base outside; *tarsi blackish,* the *metatarsi,* and the second joint also of the fore pair, *pale. In the male,* the fore coxæ are denuded; the *fore tarsus* half as long again as the tibia, the *third and fourth joints, with the tip of the second,* clothed in front *with very short erect pubescence,* without any longer hairs; the *hind femora fringed with* long *pale hairs.* Extremely like the preceding.

Rare. In Mr. Walker's collection. (E.)

33. **trivialis,** Hal. z. j. v. 363. 18 (1831).—*intermedius,* Stg.; Ztt. *Æneo-viridis,* hypostomate albido, *antennis nigris basi subtus luteis, pedibus flavis, tarsis nigris, metatarsis anterioribus flavidis; Mas. femoribus posticis pallido-ciliatis, tarsorum anticorum articulis intermediis subtiliter hirtis, alis lineola costali nigra.* Long. 2; alar. 4 lin.

Brassy-green. Face yellowish-white. *Antennæ black, first joint tawny yellow beneath*; third joint in male oblong-ovate, almost as long as the first. *Wings* smoky-hyaline; *with a black costal swelling in the male. Legs yellow*; fore coxæ yellow, sometimes a little dusky at the base, not denuded in the male; *tarsi black, anterior metatarsi yellowish,*

tipped with black. In the male, the hind femora are *fringed with* long *pale hairs*; the *fore tarsus* is not much longer than the tibia, the three *intermediate joints* clothed in front *with very short erect pubescence*, and the first joint has a bristle at the tip.

Common. (E. S. I.)

34. **festivus,** Hal. z. j. v. 361. 10 (1831).—*Macquarti*, Stg.—*cilifemoratus*, Ztt.—*Var.* Mq.; Stn. *Aureo-viridis*, hypostomate candido, *antennis luteis supra apiceque fuscis, pedibus flavis, tibiis posticis apice fuscis, tarsis nigris, metatarsis anterioribus flavis, alis vena subapicali obtuse geniculata; Mas. femoribus posticis pallido-ciliatis, tarsorum anticorum articulis intermediis hirtis subarcuatis, alis lineola costali nigra.* Long. $2\frac{2}{3}$; alar. 5 lin.

Gilded-green. Front bluish-green. Face silvery-white in male, more dull in female. *Antennæ tawny yellow*, a little *dusky on the upper edge*, the third joint short, triangular, rather obtuse, *and* dusky *at the tip*; arista rather long, the penultimate joint not more than one-fourth (while in those preceding it is fully half) the length, of the last joint. *Wings* broad, smoky-hyaline; the bend of the *subapical vein* strong, but still *obtuse-angled*; the *black costal swelling in the male* short. *Legs yellow*; fore coxæ yellow, not quite denuded in the male; *hind tibiæ brown at the tip*, with a slight pale streak in the male; *tarsi black, anterior metatarsi yellow* tipped with black. In the *male* the *hind femora* are *fringed with* long *pale hairs*; the *fore tarsi* are not half as long again as the tibia, the three *intermediate joints* are *a little curved*, concave in front, and clothed *with* long *erect pubescence*, and the first and second have besides a curved bristle at the tip.

Not uncommon. (E. S. I.)

Obs. D. cilifemoratus, Mq.; Stg.—*nitidus*, Stn., has the bend of the subapical vein rectangular without a branch, the antennæ blackish only at the tip, the third joint longer than in *D. festivus*, and the fore tarsus of the male not bearded.

35. **nitidus,** Fln. dol. 12. 9 (1823); Ztt.—*ornatus*, Mg.; Stn.; Stg.—*jucundus*, Hal. *Aureo-viridis*, hypostomate candido, *antennis luteis supra apiceque nigris, pedibus flavis, tibiis posticis apice tarsisque fuscis, his basi pallidis, alis vena subapicali rectangulatim fracta appendiculata; Mas.* alis lineola costali nigra. Long. $2\frac{1}{3}$; alar. $4\frac{2}{3}$ lin.

Gilded-green; front often bluish-green. Face white, silvery in male. *Antennæ tawny yellow, the upper edge and the tip blackish*; third joint short triangular. Wings broad, hyaline, darker in female; the bend of the *subapical vein rectangular, with a little branch*; in the male a black costal swelling. Black edge of lamellæ broad, denticulated, the cilia long. *Legs* and fore coxæ *yellow*, tibiæ and tarsi paler; *anterior tarsi dusky at the tip; hind tibiæ* with a *blackish* spot *at the tip; hind tarsi black, the metatarsus pale* tipped with black.—Very rarely, the female has black antennæ, only the lower edge of the first joint a little

tawny; still differing from *D. griseipennis, fœm.*, by the colour and more numerous spines of the hind metatarsus.

Not rare. (E. S. I.)

Obs. D. nitidus, Mg., which came to him from England, is referred by Stannius to his *D. nitens,* a species which has black antennæ with only the underside of the first joint dull yellowish, and entirely black hind tarsi: while it differs from the next by the beardless hind thighs; and from *D. diadema,* by the black fringe of the alulæ and the yellowish face of the male, as well as by the colour of the antennæ. I know none such.

36. **griseipennis,** Stn. isis, xxviii. 49. 4 (1831); Ztt.—*nitidus,* Hal.; Stg. *Obscure æneus,* hypostomate albido, *antennis nigris basi subtus luteis, pedibus flavis, tarsis nigris, metatarsis anterioribus flavis, alis vena subapicali rectangulatim fracta appendiculata; Mas. femoribus posticis nigro-ciliatis,* alis lineola costali nigra. Long. $2\frac{1}{3}$; alar. $4\frac{2}{3}$ lin.

Brassy-green, with little shine. Face yellowish-white. *Antennæ black, underside of the first joint tawny yellow*; third joint rather acute, and in the male oblong. Thorax with coppery stripes more marked than usual. Wings rather broad, dark greyish-hyaline; bend of *subapical vein rectangular, with a little branch*; a black costal swelling in male. Black edge of lamellæ narrow; ciliated, jagged at the tip. *Legs* rather dark *yellow*; fore coxæ yellow with the base dusky, glossed with white in male; hind tibia black at the tip, in the male at least; *tarsi black, anterior metatarsi yellowish* tipped with black. Hind femora in male fringed with black hairs.

Common in wet places. (E. S. I.)

37. **diadema,** Hal. z. j. v. 361. 11 (1831).—*fraternus,* Stg.—*Stannii,* Ztt.—*bifurcatus,* Mq.? *Obscure æneus, thorace olivaceo, hypostomate elongato argenteo, antennis nigris, pedibus flavidis, tarsis nigris, metatarsis anterioribus flavidis, alis vena subapicali rectangulatim fracta appendiculata; Mas. tibiis posticis nigricantibus, alulis pallido-ciliatis,* alis lineola costali nigra. Long. $2\frac{1}{3}$; alar. $4\frac{2}{3}$ lin.

Dark brassy, scarcely shining. *Face silvery-white, projecting downwards* over the mouth, especially in the male, but not very narrow. Palpi pale at the tip. *Antennæ black*; third joint short oval, rather pointed; arista naked. *Thorax* above blackish-*olive.* Wings dark hyaline; bend of *subapical vein rectangular with a little branch*; transverse discal vein distant from the margin by its own length; black costal swelling short in male. *Fringe of alulæ pale in male.* Lamellæ obliquely truncated at the tip, with a narrow black edge, scantily ciliated, except at the jagged outer angle. *Legs brownish-yellow*; fore coxæ yellowish glossed with white, dusky at the base; *tarsi black; anterior metatarsi yellow* tipped with black, the hind one a little yellowish at the base in the female; fore tarsus not longer than tibia. *In the male,* the fore coxæ are partly denuded, the femora dusky at the base

beneath, with the pubescence white, *the hind tibia blackish* except the base.—Rarely, the male, with immaculate femora, has merely a blackish stripe down the back of the hind tibia; were this also effaced, Macquart's description would apply, so far as it goes, but he does not notice the rectangular vein in this case.

Common on the surface of pools overgrown with water-plants. (E. S. I.)

38. **latipennis,** Fln. dol. 8. 1 (1823); Mg.; Stn.; Mq.; Stg.; Ztt. *Nigro-æneus, fronte cyanea, hypostomate elongato argenteo, antennis capite longioribus atris, pedibus flavis, tarsis nigris basi flavis, femoribus posterioribus pluri-spinosis; Mas. alis rotundato-dilatatis, stigmate costali atro.* Long. $2\frac{1}{3}$; alar. $4\frac{2}{3}$ lin.

Brassy-black, or olive. *Front shining steel-blue. Face elongated, silvery-white,* in the female duller. Palpi pale silvered. *Antennæ black, elongated,* in the male much longer than the head is broad; the first and second joints of equal length, oblong, the first very hairy above in the male; the third joint shorter, especially in the female, oval, the tip ascending in a point; arista rather thick. *Wings* short, hyaline, the bend of subapical vein obtuse-angled; *in the male very broad rounded,* the discal areolet long, the transverse vein distant from the margin by scarcely its own length, *the black costal swelling very thick. Legs* and fore coxæ *yellow; tarsi black; metatarsi yellow* tipped with black; fore tarsus not longer than tibia; from *three to five spines on the hind femora,* not so many on the middle pair. In the male the fore coxæ and the femora are glossed with white, and nearly denuded of pubescence.

Rare, on the sea-coasts. (E. I.)

Obs. The number of spines on the hind metatarsus may afford some specific characters, being pretty constant in each species, except that there are sometimes more in the male than in the female. Counting only those in the uppermost row, we find them

many in Sp. 1 m., 2.
four in Sp. 15 m., 19 m., (10, 34 m.)
three in Sp. 1 f., 4 m., 7, 8 m., 9 m., 10 m., 11 m., 12, 15 f., 17 m., 20, 21, 28, 33 m., 34.
two in Sp. 8 f., 9 f., 10 f., 13 m., 14, 16, 17 f., 18, 22, 23, 24 m., 25, 26, 27 m., 31, 32 m., 33 f., 35, 37, 38 m., (1 f., 34 f.)
one in Sp. 29, 30 m., 36.

Obs. There are three species introduced into the British lists, yet unnoticed, which may probably belong to this section, viz., *D. relictus,* Mg., a doubtful species, unknown to Stannius, and given as British without grounds;—and *D. rusticus,* Mg., which may perhaps be the female *D. atripes,* as it does not seem to agree with the species described by Stannius as *D. rusticus,* in

the following section. Lastly, *D. azureus*, Mq., a species probably allied to *D. nitidus*, if distinct.

Section A A. *Hind metatarsus unarmed.*

First come the species (39-46) with the cilia of the lower orbit pale; the first joint of the hind tarsus (spineless except beneath) not much shorter than the second; the lamellæ of the male broad, generally dusky, and fringed at the tip.

Stannius has made a peculiar genus of those (sp. 39–42) which have the face elongated, descending in front of the proboscis lower than the eyes. In these the arista is glabrous, slender, curved only at the thickened base, the penultimate joint far shorter than the last; the four exterior joints of the fore tarsus compressed, and together not longer than the metatarsus, in the males dilated, and often feathered above; the femora rather hairy beneath, the posterior, or at least the hind pair, with several spines in front; the subapical vein oblique, ending some distance before the tip of the wing, and approaching very close to the cubital; its slight flexure and the discal transverse vein usually shaded with brown; the alulæ fringed with black hairs and pale pubescence. The colours also are rather peculiar; the thorax being coated above, especially in front, with a yellowish dust, composed of round, flat, microscopic scales; the abdomen chequered with a changeable hoary gloss, the dorsal stripe and the incisures being blackish.

39. **insignis,** Stn. isis, xxviii. 270. 3 (1831); Stg.; Ztt. *Ænescens, thorace* opaco *flavido-cinereo, antennis nigris, articulo primo luteo, femoribus apice, tibiis, metatarsis anticis tarsisque posterioribus flavis, geniculis horum nigris,* femoribus posticis pluri-spinosis, alis hyalinis; *Mas. metatarso antico articulis reliquis atris pennatis sesquilongiore, hypostomate ochraceo; Fœm. hypostomate albo.* Long. $2\frac{1}{4}$; alar. $4\frac{1}{3}$ lin.

Greenish-brassy. Front with an ochreous tinge. *Face ochre-yellow in male, yellowish-white in female. Antennæ black, first joint tawny yellow,* third somewhat ovate. *Thorax* opake, *greenish-grey, with* coppery streaks and *ochreous dust.* Wings hyaline; in the female darker, with the transverse vein and a dot faintly brownish; the latter about the middle of the subapical vein; the transverse vein undulated. Abdomen chequered. Lamellæ dusky, rather oblong-obovate, with long cilia; internal appendages prominent, forceps narrow triangular; outer lobe of aculeus short and broad. Legs long and slender; coxæ and base of femora blackish-green with a hoary shade; *the tip of the femora* largely (the middle pair almost entirely), *the tibiæ, posterior tarsi and fore metatarsus,* light *yellowish; the tips of the* tibiæ and *joints of*

the tarsi, and the exterior joints of the fore tarsus entirely, *blackish*; the femora with long hair, the middle pair with a single spine in front, the hind pair 4–6. *In the male the fore metatarsus* is glossed with white, very slender, dilated at the tip, *nearly twice as long as the succeeding joints* together; *these deep black*, dilated, strongly *feathered above* with black, the tip of the last with white, hairs.

On sandy coasts. (E. I.)

40. **ammobates.**—*plumipes*, Fln. dol. 14. 13 (1823); Stn.; Stg.; Ztt. *Obscure ænescens, thorace ferruginoso, antennis nigris, articulo primo subtus luteo, femoribus apice, tibiis et metatarsis flavo-ferrugineis*, femoribus posticis pluri-spinosis, alis vena transversa punctoque fuscis; *Mas. tarsi antici articulis exterioribus atris pennatis, hypostomate argenteo; Fœm. hypostomate cano.* Long. $2\frac{1}{4}$; alar. $4\frac{1}{3}$ lin.

Dark brassy. Face silvery-white in male, dull whitish in female. Antennæ black; first joint tawny yellow, blackish on the upper edge; third rather ovate. *Thorax dusted with ferruginous.* Wings dark hyaline; the slightly curved discal transverse vein shaded with brown, and a brownish dot on the flexure which lies beyond the middle of the subapical vein. Abdomen chequered. Lamellæ dusky, rather oblong, the cilia long; forceps prominent. Coxæ and femora greenish-black with hoary gloss; *femora at the tip*, the middle pair to the half-length, *ferruginous-yellow; tibiæ and metatarsi the same*, tipped with black; femora with long hairs, middle pair with 1 or 2 spines in front, the hind pair 4–6. *In the male* the *fore metatarsus* is a *little longer than the following joints together; these deep black, feathered above.*

Inhabits sandy shores of the sea and lakes (in Sweden and Germany). As it is very likely it may occur in these islands, though not hitherto precisely distinguished from the allied species, I do not venture to expunge it from the British lists.

Obs. Since it has become necessary to change the original trivial name, being preoccupied (see sp. 16), I have chosen to substitute the name used by Stannius as generic, which cannot be retained in that application, as it is preoccupied in *Hymenoptera.* Should the group be still thought to claim generic rank, the name *Tachytrechus*, applied to it by Stannius elsewhere (*ib.* 261), might be restored instead.

41. **consobrinus,** (Ct. Guide).—*plumipes*, Mg. zw. iv. 87. 22 (1824); Mq.; Hal. e. m. *Obscure ænescens, thorace ferruginoso, antennis luteis, articulo tertio nigro, femoribus apice, metatarsis anterioribus tibiisque flavo-ferrugineis*, femoribus posterioribus pluri-spinosis, *alis* vena transversa punctoque fuscis, *lineola costali atra prope basim; Mas. tibia antica mutica, tarsi antici articulis exterioribus latissimis atris antice argentatis, hypostomate argenteo; Fœm. hypostomate griseo.* Long. $2\frac{1}{4}$; alar. $4\frac{1}{3}$ lin.

Blackish-brassy. Face silvery-white in male, yellowish-grey in female. Antennæ with the first two joints tawny yellow, the third black; this short, as also the penultimate joint of the arista. *Thorax* above *dusted with ferruginous.* Wings dark hyaline; *costal vein near the base with a black swelling,* not reaching to the junction of the subcostal; discal transverse vein very faintly curved, shaded with brown, oblique in the male; a brownish dot on the flexure which lies before the middle of the subapical vein. Abdomen chequered. Lamellæ dusky, broad and rounded at the end; forceps nearly hidden by the obtuse dilated edge of hypopygium; aculeus as it were bifid, the outer lobe being nearly as long as the internal spine-shaped one, slender, the tip pointed and slightly incurved, outside before this a recurved spine-shaped tooth, and between the two a small obtuse one. Coxæ and femora olive-black, with hoary gloss; *femora ferruginous at the tip,* the middle pair to the half-length; these with 3 or 4 spines in front, the hind pair 4 or 5; *tibiæ and anterior metatarsi ferruginous,* tipped with black, hind tibiæ with a dusky spot at the base. *In the male* the *fore tibia* is *destitute of spines,* and glossed with white as well as the *metatarsus,* which is *as long as the succeeding joints together; these* are *much dilated* (the third and fourth broader than long), *deep black, silvered in front,* fringed above with black, the tip of the last with white, hairs.

On moory uplands of Wicklow. In Mr. Haliday's collection. (I.)

42. **notatus,** Stn. isis, xxviii. 269. 2 (1831); Ztg.; Stt.—*plumipes,* Hal. z. j.—*litoreus,* Hal. e. m. *Obscure ænescens, thorace ferruginoso, antennis basi subtus, genubus, tibiis et metatarsis anterioribus basi, tibiisque posticis medio ferrugineis,* femoribus posterioribus pluri-spinosis, *alis* vena transversa punctoque fuscis, *lineola costali atra prope basim; Mas. tarsi antici articulo ultimo antice argentato, hypostomate argenteo; Fœm. hypostomate cano.* Long. $2\frac{1}{4}$; alar. $4\frac{1}{3}$ lin.

Blackish-brassy. Face silvery-white in male, dull white in female. Cilia of the lower orbit whitish (yellow in the allied species). *Antennæ black,* the *lower edge of the first joint and base of second reddish-ferruginous*; the third joint short, as is the penultimate. *Thorax* above *dusted with ferruginous.* Wings dark hyaline; *costal vein near the base with a black swelling,* not reaching to the junction of the subcostal; discal transverse vein straight and perpendicular, shaded with brown, a brownish dot on the flexure which lies before the middle of the subapical vein. Abdomen chequered. Lamellæ dusky, broad, rounded at the end; forceps nearly hidden; aculeus as it were bifid, the outer lobe being nearly as long as the inner one, broad, compressed, notched at the tip, with the inner tooth acute incurved, the outer broad rounded, outside before this a recurved spine-shaped tooth. Coxæ and femora olive-black, a little hoary; *tips of anterior femora* (a mere dot on the hind pair) and *basal half of the tibiæ and anterior metatarsi reddish-ferruginous,* the *base of the hind tibiæ* again *blackish*; the middle

femora with 3 or 4 spines in front, the hind pair with 4 or 5. *In the male*, the spines of the fore tibia are slighter, the first joint of the *fore tarsus* gradually dilated to the tip, the following joints somewhat dilated, the *last joint silvered in front*.

Among sedges on the shores of estuaries and lakes. (E. S. I.)

Obs. D. alpinus, Mg., which Stannius conjectures to belong to this group, the wings being marked in the same way, remains problematical, perhaps not of this genus.

In those which follow (species 43–46) the face is shorter, scarcely extending as low as the eyes, mostly yellowish-white with silvery gloss in the male, dull whitish in the female; the thorax in front has a shifting hoary gloss with darker stripes; the incisures of the abdomen are not blackened; the subapical vein converges less strongly towards the cubital (sometimes they are almost parallel); the fringe of the alulæ is usually black; the posterior femora have a single spine in front; the first joint of the hind tarsus is barely shorter than the second, sometimes even becoming the longest (*D. Sahlbergi*, Ztt.).

43. **nobilitatus,** L. s. n. i. 995. 98 (1767); Fb.; Rsi.; Shr.; Fln.; Mg.; Mq.; Stn.; Stg.; Ztt.—Mas. *ciliatus*, Mlr.—*cupreus*, Gf.—*joco*, Hrs.!—Shf. ic. pl. 206. fig. 5!—Fœm. *sericeus*, Gf.—*ludicrus*, Hrs.!—*plumicornis*, Mg.; Mq. *Aureo-viridis, antennis nigris, arista villosula, pedibus flavis, tibiis posticis apice tarsisque nigris, metatarsis anterioribus flavidis; Mas. lamellis trigonis acuminatis fuscis, alis ante apicem album nigris; Fœm. alis versus apicem infuscatis.* Long. 2½; alar. 5 lin.

Gilded-green, sometimes coppery-red. *Antennæ black, arista* with the last joint long, *very pubescent. Wings* narrowed towards the base, the anal edge being sloped away without any approach to an angle; hyaline; *brownish in the outer half, in female; blackish in male*, more deeply so at the fore edge, *the* glabrous *tip* forming a defined *white* spot; the anterior veins are waved within the black patch. *Lamellæ* large, *triangular, brownish-black*, paler towards the base, the apical margin strongly pectinated and ciliated, the outer angle *acutely elongated. Legs* and fore coxæ *yellow*, the *tip of the hind tibia and the tarsi black, anterior metatarsi yellowish* tipped with black; the middle femora have a spine near the tip behind, as well as one (rarely two) in front.

Among water-plants, about large ponds. (E. S. I.)

44. **gracilis,** Stn. isis, xxviii. 255. 44 (1831). *Prasinus, antennis nigris, arista nuda, pedibus pallide flavis, tarsis apice nigris, alulis pallido-ciliatis; Mas. lamellis albidis.* Long. 2; alar. 4 lin.

Bright *grass-green. Antennæ black, arista* nearly *naked.* Wings nearly hyaline, with a slight black costal swelling in male. *Fringe of alulæ pale.* Abdomen gilded. *Lamellæ* obtuse, *dingy white* with a

narrow black edge. *Legs pale yellow*; posterior coxæ grey at the base, fore pair nearly denuded, glossed with white in male. Anterior *tarsi* dusky *towards the tip*; hind pair *blackish*, the metatarsus yellow except the tip; hind tibiæ sometimes with a dusky spot at the tip; the middle femora have a small spine behind also.

Found near Thetford, in Norfolk. In Mr. Curtis's collection. (E.)

44*. **germanus,** Wd. z. m. ii. 71. 17 (1818); Fln.; Mg.; Mq.; Stn.; Stg.; Ztt. *Viridi-æneus, antennis nigris, arista nuda, pedibus luteis, tibiis posticis apice tarsisque nigris, metatarsis anterioribus luteis alis fuscis; Mas. lamellis nigris.* Long. 1½–2; alar. 3–4 lin.

Brassy-green. Antennæ black, arista nearly *naked. Wings sooty-brown,* darker along the fore edge. *Lamellæ* small, obtuse triangular, *blackish,* slightly ciliated. *Legs* and fore coxæ *tawny yellow; hind tibiæ at the tip,* rather largely, *and tarsi black; anterior metatarsi yellow* tipped with black.

Rare. (E.)

45. **nigriplantis,** Stn. isis, xxviii. 250. 39 (1831); Ztt. *Obscure viridi-æneus, antennis nigris, arista nuda, femoribus apice, tarsis anterioribus basi tibiisque flavis, alis antice infuscatis; Mas. lamellis fuscis, tarsi intermedii articulo ultimo atro ciliato.* Long. 2½; alar. 5 lin.

Dark brassy-green. Antennæ black; arista nearly *naked,* the penultimate joint little shorter than the last in male. *Wings* hyaline, *dusky along the fore edge*; the cubital and subapical veins a little sinuated. *Lamellæ* somewhat rounded, *dusky,* edge blackish. Coxæ and femora olive-black; trochanters ferruginous; *tips of femora and the tibiæ yellow*; hind tibiæ blackish at the tip; *fore tarsi yellow, dusky towards the tip; middle tarsi* blackish, *with the metatarsus yellowish* tipped with black, *the last joint in the male* a little dilated and *ciliated, deep black,* the onychia appearing as a white tip; hind tarsi black, the first and second joints nearly equal in length.

Rare. In Mr. Clifton's collection. (E.)

Obs. D. nigrimaculatus, Mq. (Ct. Guide, 1258. 2), is doubtless a misprint for *D. nigrilamellatus,* Mq. (Brassy-green, antennæ black, arista naked, legs black or piceous, wings smoky-hyaline; male with black lamellæ. Length 2½ lines.)

Obs. D. chalybeus, Wd. (Blackish-green, front and thorax steel-blue, antennæ black, first joint tawny yellow beneath, arista very pubescent, legs yellow, tip of hind femora, hind tibiæ except the base, and tarsi black, anterior metatarsi yellow, wings blackish, the cubital and subapical veins nearly parallel; male with yellowish lamellæ edged with black. Length 2 lines), has been admitted into the British lists, perhaps by mistake for *D. chalybeus,* Mg., which is treated as a variety of species 9, in the first section.

46. **nigripennis,** Fln. dol. 15. 16 (1823); Mg.; Mq.; Stn.; Hal.; Stg.; Ztt. *Atro-virens, hypostomate flavescente, proboscide elongata, genubus tibiisque anterioribus ferrugineis, alis nigricantibus, vena subapicali alæ apicem attingente; Mas. lamellis nigris.* Long. $1\frac{1}{2}$; alar. 3 lin.

Metallic *blackish-green. Face straw-colour* in male, more grey in female. Antennæ black, long; third joint oblong in male; arista nearly naked, penultimate joint half as long as last in male. *Proboscis half as long as the head in female,* not so long in male; palpi oblong, black. *Wings sooty-brown,* darker at the fore edge; cubital nearly parallel with *subapical vein,* which *runs almost straight to the tip of the wing. Lamellæ* short, obtuse triangular, pubescent, *black-brown.* Legs pitchy-black; *anterior tibiæ, with the tip of the femora, ferruginous.*

Common. (E. S. I.)

The remaining species, with the cilia of the lower orbit black, are mostly small, and have the hind metatarsus short, seldom much more than half the length of the next joint; the antennæ, and usually the palpi, are black; the subapical and cubital veins parallel, or but slightly converging, the former nearly straight; the alulæ fringed with black. In those (species 47–49) which have the lamellæ of the male broad (as hitherto) the disc of the scutellum is somewhat pubescent. Northern Europe produces many of this character; some of which have probably been overlooked among us, the distinctive marks being very fine.

47. **cupreus,** Fln. dol. 15. 15 (1823); Mg.; Mq.; Stn.; Stg.; Ztt. *Obscure æneus,* hypostomate albido, *pedibus nigris, femoribus apice tibiis et metatarsis flavidis, alis fuscanis; Mas. lamellis nigris, tibiis intermediis incrassatis, alis vena costali subincrassata.* Long. $1\frac{3}{4}$; alar. 4 lin.

Dark brassy. Front dull greyish-yellow. *Face yellowish-white.* Arista finely pubescent, the penultimate joint short. *Wings brownish*; discal transverse vein waved; *costal vein rather thicker in the male,* from the end of the subcostal. *Lamellæ* dusky *black. Legs* dusky *black*; trochanters, *femora at the tip, metatarsi* except the tip, *and tibiæ yellowish*; hind metatarsus not much shorter than the next joint. *In the male, the middle tibia* is *thickened,* towards the tip curved, and armed inside with a few short spines.

Not rare. (E. S. I.)

48. **celer,** Mg. zw. iv. 84. 18 (1824); Mq.; Stn.; Stg.; Ztt.—*sarus,* Hal. *Obscure viridi-æneus, hypostomate cano, arista villosula, femoribus tibiis et metatarsis flavis; Mas. lamellis flavidis, alis lineola costali atra prope basim.* Long. $1\frac{1}{3}$; alar. $3\frac{1}{2}$ lin.

Dark brassy-green. Front yellowish-grey. *Face* dull *whitish.* Antennæ short; *arista very pubescent,* the first joint very short. Wings

long and rather narrow, light brownish; the subapical and cubital veins nearly parallel; *the costal vein in male with a black swelling near the base*, not reaching to the junction of the subcostal. *Lamellæ* dingy *yellowish*; arms of forceps slender, the tip incurved and spatulate. *Legs yellow; coxæ dusky; tarsi dusky, metatarsi yellow* with dusky tip; hind metatarsus not much shorter than the next joint; the fore tibiæ, besides the two or three small spines in the upper half, are very minutely pectinated, in front, along the outer edge, in the last two-thirds of their length.

Not rare. (E. S. I.)

49. **ærosus,** Fln. dol. 15. 17 (1823); Mg.; Mq.; Stn.; Hal.; Stg.; Ztt. *Obscure viridis, pedibus flavis, femoribus posticis supra et tarsorum articulis exterioribus fuscis, alis subhyalinis, venis cubitali et subapicali parallelis; Mas. lamellis et hypostomate nigris; Fœm. hypostomate cano.* Long. 1¼; alar. 3 lin.

Dark metallic-green. Front yellowish-grey. *Face in male* narrow, *black*, greyish at the mouth; *in female* dull *grey*. Arista very finely pubescent; penultimate joint more than half the length of the last, in male. *Wings* rather long, *dark hyaline, the subapical and cubital veins* nearly *parallel. Lamellæ dusky-black*; arms of forceps very slender, subulate, with the tip incurved. *Legs yellow*; coxæ dusky, fore pair paler at the tip; *tarsi dusky*, fore pair paler, *metatarsi yellow*; the *hind femora*, sometimes also the fore pair, *brownish on the upper edge*; the fore tibia more faintly pectinated than in the preceding.

Common in shady places. (E. S. I.)

In the rest, the lamellæ are attenuated; the inner appendages lengthened, sometimes fringed at the tip with long pale hairs; the arista is nearly naked, the penultimate joint long in the males at least; the subapical vein nearly straight, converging slightly to the cubital; the hind metatarsus not much more than half the length of the following joint; the disc of the scutellum is naked in general, but *D. nanus* prepares the transition to those last preceding. It might, perhaps, be better to place them with *Sybistroma*, as Stæger has done. I have followed Zetterstedt in limiting that group to the species with the hypopygium of the male light-coloured, and the cilia of the lower orbit whitish.

50. **nanus,** Mq. emp. 66. 15 (1827).—*minimus*, Ztt. *Obscure viridi-æneus, hypostomate albido, pedibus flavis, femoribus tibiisque posticis apice, tarsisque fuscis, metatarsis anterioribus flavis; Mas. lamellis oblongis flavidis.* Long. 1¼ lin.

Dark brassy-green. Front a little hoary. *Face* silvery-*white* and very narrow in male, yellowish-white in female. Scutellum very faintly pubescent on the disc. Wings dark hyaline. *Lamellæ* dingy *yellow, oblong. Legs yellow*; posterior coxæ dark grey; *a spot at the tip of*

hind femora, tip of hind tibiæ more largely, *and* the hind *tarsi* entirely, *blackish-brown; anterior metatarsi yellowish.*

Rare. In Messrs. Dale's and Walker's collections. (E.)

51. **parvilamellatus,** Mq. emp. 66. 16 (1827). *Atro-virens, tibiis et tarsorum basi flavidis; Mas. lamellis linearibus flavidis, hypostomate fusco-flavescente; Fœm. hypostomate cano.* Long. $1\frac{1}{3}$; alar. 3 lin.

Blackish-green. Front with an ochreous shade. *Face in male dusky,* with dull *ochreous* gloss; *in female hoary.* Antennæ long, third joint obtuse or truncated; arista almost glabrous, penultimate joint as long as the last in male, half as long in female. Wings dark hyaline. *Lamellæ* dingy *yellow,* pubescent, nearly *linear,* with a tooth at the outer apical angle. Coxæ and femora black-brown; trochanters and tip of anterior femora, and the *tibiæ yellowish; tarsi dusky,* anterior metatarsi (or more) and *base* of the hind one (more obscurely) *yellowish.*

Not uncommon. (E.)

52. **alutifer,** (Hal. MSS.) *Æneo-viridis, capite albido, pedibus flavis, tarsis apice posticis totis fuscis; Mas. lamellis linearibus flavidis, tarsi antici articulis binis primis elongatis, reliquis compressis atris, ultimo apice albo.* Long. $1\frac{1}{2}$; alar. 3 lin.

Bright *metallic-green. Front whitish. Face* silvery-white in male, dull *white* in female. Palpi ferruginous. Antennæ short, black, third joint triangular. Wings dark hyaline; subapical and cubital veins converging. Hypopygium closely applied to the belly, so that the appendages are scarcely visible; *lamellæ* nearly *linear, ferruginous. Legs* long and slender, *yellow*; middle coxæ grey at the base; *tarsi* and tip of hind tibia *dusky; first two joints of* the *fore tarsus and* the *middle metatarsus yellow. In the male, those two joints* are each nearly half as *long* as the tibia; *the following joints* together not longer than one of them, *compressed,* the third and fourth feathered above, *deep black, the last white with black base.*—Allied to *Syb. crinipes,* Stg. (*D. pectinifer,* Zlr.), and to *D. crinicauda,* Ztt.

Found near Harrietsham, in Kent. In Mr. Stephens's collection. (E.)

Genus IV. **ORTHOCHILE.**

ORTHOCHILE, Ll. gen. iv. 289 (1809); Mg.; Mq.; Stg.; Lw.

Antennæ articulo tertio apice attenuato, arista dorsali subsinuata. Proboscis capite longior, acuminata. Hypopygium maris extricatum, lamellis geminis externis patulis.

Eyes separated, very faintly pubescent; face nearly of equal breadth in both sexes; cilia of the lower orbit whitish. *Proboscis longer than the head,* extending downwards as far as the end of the fore coxæ,

tapering to a point; palpi a little shorter, oblong, not pointed. *Antennæ* not as long as the head is broad, *with third joint tapering*, somewhat ovate; the *arista on its upper edge*, about the middle, nearly naked, the *penultimate joint curved*, scarcely half as long as the last, still shorter in the female. Scutellum naked on the disc. Wings in all the species sooty-brown; the discal transverse vein distant from the hind margin by more than its own length; the subapical vein nearly straight, converging towards the cubital, and ending a little before the tip of the wing. Alulæ with black fringe. Abdomen conical, somewhat compressed behind; sixth segment in male exserted, short, glossy-tomentose, without bristles. *Hypopygium of male free*, large, compressed, blackish, *with* a pair of somewhat *dilated*, lanceolate, *movable lamellæ*, the other appendages fixed. Posterior femora with a single spine in front near the tip; spines of the tibiæ not numerous, scarcely any on the sides of the fore pair; hind metatarsus not spined, but little shorter than the next joint. In the male the tarsi are sometimes partially dilated.—The affinity of this genus is very close with the *Dolichopi* of the second section which have the cilia of the lower orbit pale. *D. nigripennis*, with its elongated proboscis, forms the link between them.

Of the three European species which Loew has distinguished, only one has occurred in the British Islands.

1. **nigrocærulea,** Ll. gen. iv. 289 (1809); Mg.; Lw.—(*nigrocærulescens*), Stg. *Atro-virens, tibiis anterioribus, posticarum basi, metatarsisque anticis flavidis, tarsis simplicibus.* Long. $1\frac{1}{2}$; alar. 3 lin.

Metallic *blackish-green.* Face and palpi glossed with grey, more yellowish-grey in male. Lamellæ brown, blackish at the tip; which is attenuated, slightly denticulated and ciliated; forceps prominent, the arms dilated at the tip, and truncated. Coxæ and femora olive-black; the tip of the femora, the trochanters and *tibiæ*, in the *anterior* pairs, *yellow-ferruginous; fore metatarsus the same*, tipped with black; the *hind tibia ferruginous from the base to* about *the middle*; the *tarsi simple* in both sexes.

Rare. (E.)

Genus V. **HYDROPHORUS.**

Hydrophorus, Wlbg. act. holm. consp. 1844; p. Fln.; Ztt. *Medeterus* p., Mg.; Mq.; Ct.; Hal. *Dolichopus* p., Ll.; Fb.; Lhm. *Musca* p., L.; Spl.; Fb.; Gm.; Rsi.; Dnvn.

Antennæ articulo tertio brevi, arista dorsali deflexa. Oculi pubescentes, distantes. Vena transversa margini proxima. Femora et tibiæ spinulosa. Hypopygium maris immersum, lamella inflexa subbiloba.

Eyes pubescent, distant in both sexes. Face bisected by a transverse line, the upper face longitudinally furrowed, the lower with a tubercle

above at each side, and ending below in an obtuse angle. Lower orbit sometimes enlarged into cheeks (sp. 7, 8). Supercilia black spines; lower occiput bearded with pale hairs. Proboscis, with the palpi, moderately prominent. *Antennæ* generally shorter than the head, *with* the first joint naked; the second shortest, verticillate; *the third joint scarcely longer than broad*, the thickened base separated from the compressed rounded tip by a line inside descending from the insertion of the arista and ending with a tooth below; *arista dorsal*, nearly naked, the last joint *deflected*, making an angle with the penultimate, which is about as long as the third joint (except sp. 1, 2). Scutellum usually with two bristles at each side; (except sp. 1, 10.) Prosternum with a spine at each side, or a bristle stronger than in *Dolichopus*, sometimes with more than one (sp. 3, 10). *Metathoracic epimera* much *dilated*, extending to the base of the second segment of the abdomen. *Wings* longer than the body, oblong; *with the* discal *transverse vein* very *close to the hind margin*, seldom distant by near its own length. Alulæ fringed with fine pale hairs. Halteres usually pale, sometimes with a dusky spot at the end. *Abdomen* in general not longer than the thorax, *depressed*, finely pubescent, with the incisures not ciliated; five segments, the first not shorter than the following; the foveolæ of the inflected lateral margins very conspicuous. *In the male* the abdomen is a little compressed behind, with the fourth ventral segment prominent; *the hypopygium* for the most part *imbedded, with a single inflected appendage* beneath (not always visible), *composed as if of two lamellæ united* by the hind edge to form a keeled vessel (except sp. 1, 3). *Fore legs short; the coxæ* but little compressed, very freely articulated, *little shorter than the femora*, which are swelled towards the base, and form with the curved tibia a strong pincer, the spines of the contiguous edges interlacing; the *posterior* legs long and slender, the coxæ usually unarmed, the *femora and tibiæ* armed *with short scattered spines*, the hind metatarsus unarmed, little longer than the second joint; (except sp. 1, 2.)

The species of this genus, as the name imports, live mostly on the surface of the water, of ponds and lakes, or even of the sea. Some of them have been found on pools frozen over in winter.

The British species are not numerous, and may be arranged thus:—

a. Posterior femora with a single spine in front near the tip.
  b. Abdomen banded. Species 1.
  b b. Abdomen not banded. Species 2.
a a. Posterior femora with scattered spines.
  c. Fore tibia obliquely produced at the tip inside. Species 3.
  c c. Fore tibia with a straight tip.
    d. Arista deflected at a rectilineal angle.
      e. Wings with numerous dusky spots. Species 4.
      e e. Wings with two dusky dots.

f. Upper part of the face burnished. Species 5.
f f. Upper part of the face tarnished. Species 6.
e e e. Wings not spotted.
g. With cheeks under the eyes.
h. Pubescence of the abdomen above blackish. Sp. 7.
h h. Pubescence of the abdomen pale. Species 8.
g g. Without cheeks. Species 9.
d d. Arista decurved. Species 10.

The first two species depart in several points from the typical character. The third joint of the antenna is obtusely triangular, not toothed, the arista long and slender; the abdomen longer than the thorax, and convex, the first segment shorter than the second, the hind margin of it (in particular) ciliated at each side, the sixth segment more or less exserted above in the male; the fore femora not much thicker than the others, and unarmed below, as well as the inner edge of the tibia; the posterior coxæ with a bristle on the outside.

1. **virens,** Spl. carn. 921 (1763); Ll.; Rsi.—*regius*, Fb.; Fln.; Mg.! Mq.; Ct.; Ztt.—Fœm. *festivus*, Dnvn.! *Pallide viridis, abdomine nigro-fasciato, alis macula interstitiali fusca; Mas. alis ante apicem album infuscatis*, hypopygii corniculis geminis inflexis, tarsi antici articulo secundo brevissimo incrassato. Long. 3; alar. 7 lin.

Bluish-green with a hoary tinge. Face glossed with white below in male, bluish in female. Thorax with two blackish stripes down the middle, and an irregular one at each side above the wings. Scutellum with six bristles. *Wings* hyaline, *with a brown spot between the* cubital and præbrachial *veins* a little above the line of the transverse vein, which is oblique and sinuated, and lies very close to the hind margin; subapical vein obliquely converging towards the cubital, with a very faint bend before the middle; the cubital a little sinuated. *In the male the wings outwardly* are *clouded brown, with a* defined *white* spot at the *tip* between the cubital and subapical veins. *Abdomen with* the hinder edge of the segments (except the last) *blackish*, forming four *bands*; the sixth segment exserted more than the fifth in the male, glossed with white, but not pubescent; the *hypopygium* large, *with* the lamella not detached, bearing at the tip *a pair of dusky, linear, curved* and hairy *appendages*. Legs dark green, femora with white pubescence beneath, tarsi black. *In the male the second joint of the fore tarsus is very short, a little thickened,* with some minute glandular hairs at the inner edge, and tomentose below, as are also the two following joints.

About the shaded face of cliffs wetted by the spray of waterfalls. (E. S. I.)

2. **lacustris,** Spl. carn. 924 (1763).—*virens*, Pz.—*formosus*, Hal.—*viridipes*, Mq. *Viridi-æneus, genubus fulvis; Mas. vena subapicali fere rectangulatim flexa.* Long. $2\frac{2}{3}$; alar. 6 lin.

Brassy-green, varying to coppery-red, somewhat hoary beneath. Face silvery-white in male; hoary in the female, as well as the front. Thorax faintly striped. Wings hyaline, usually tinged with ferruginous towards the fore edge, the *subapical vein strongly bent* in the middle, *in the male nearly forming alternate right angles.* Abdomen of the male with the sixth segment but little exserted; lamella oblong, compressed, broad at the tip and truncated. Legs brassy-green, the *femora and tibiæ at their junction bright fulvous*; tarsi black, posterior metatarsi glossed with green; fore tarsus not longer than the tibia.

On waters, both fresh and brackish. (E. I.)

The next species is the only native representative of a peculiar group, with longer antennæ, the first joint as long as the next two together, the third very slightly toothed at the lower edge; the prosternum with several spines at each side; the wings coloured, with the base pale yellowish, extending along the fore edge to the half of the wing; the hypopygium of the male, besides the keeled lamella beneath, furnished with a longer pair of pale yellow membranous lobes in an unusual position, arising one at each side close to the margin of the fifth segment, and extending backwards and outwards, so as to be entirely visible from above, contracted at the end into a slender incurved style; the fore tibia obliquely produced at the tip inside, forming in the male a compressed lobe there and armed with some teeth higher up, the thick fore femora very spiny below. In the same sex the intermediate femora and tibiæ are garnished with long hairs and spines.

3. **notatus,** Fb. sp. ii. 448. 65 (1781); Mg.; Mq.; Ct.! Ztt.—*armiger* p., Fln. *Obscure æneus, thorace fusco-lineato, alis hyalinis, venis fusco-limbatis, basi albida*; Mas. *appendicibus analibus flavidis immaculatis intus ciliatis,* tibiis anticis dente interno bifido, intermediis apice pectinatis et cirrosis, metatarso pectinato. Long. 2½; alar. 6 lin.

Dull brassy. Front opake blackish-brown. Face narrow, in the male white, in the female grey. *Thorax with* four *dusky stripes,* the intermediate two close together. *Wings hyaline, the veins* broadly *bordered with brown,* a darker dot on the flexure of the subapical vein, and a double one on the transverse vein; *the base* of the wing and the fore edge to the middle *pale yellowish.* Abdomen short, flat above, with very slight blackish pubescence; the ordinary lamella dusky, half as long as the abdomen, attenuated at the tip and cleft; *the pale yellow anal appendages* oblong, concave *behind,* and *fringed* on both edges and about the base with long pale hairs, the terminal style naked *and spotless.* Legs dark green, with blackish tarsi; the fore tarsus nearly twice as long as the tibia, the hind metatarsus a good deal longer than the following joint; the hind coxæ with a bristle outside; the fore femora prickly in front and pectinated beneath; the tibia spinous

inside, in the female slightly produced in a point at the tip. In the male it forms an obtuse lobe there, and has besides a long bifid tooth inside above the middle; the intermediate legs have the tibia towards the tip pectinated in front, and fringed with long curly hairs behind, the metatarsus also pectinated beneath; the tip of the hind coxæ and trochanters is a little prickly; the hind femora have the pubescence at the base above inverted, the spines in front more thickly set about the middle; the hind tibiæ have two spines inside above the middle, but none on the outside.

Not rare on the long grass in woods. (E. S. I.)

The rest have the typical character more complete, the last species alone differing in any material respect.

4. **nebulosus,** Fln. dol. 3. 4 (1823); Mg.; Mq.; Ztt.—*conspersus,* Hal. *Æneus, alis inter venas seriatim fusco-punctatis.* Long. $1\frac{1}{3}$; alar. $3\frac{1}{2}$ lin.

Brassy, with shades of grey and rosy. Front opake blackish-brown. Face ochre-yellow in male, yellowish-grey in female. Thorax faintly striped. *Wings* hyaline *with dusky dots,* particularly *in a row between the* radial and cubital *veins,* elsewhere more diffused and irregular, a spot surrounding the transverse vein (which is distant nearly its own length from the hind margin), and a dot on the undulated subapical vein. Alulæ broadly bordered with black. Lamella ovate, very slightly notched at the tip. Fore femora strongly pectinated beneath from the base to the middle, and prickly in front; tibia inside closely set with minute spines in a double row, the last one next the tip much stronger.

Common on pools, in moors, and among mountains. (E. S. I.)

5. **bipunctatus,** Lhm.! n. act. ac. dec. 2. xii. 243 (1824); Mg.; Mq.; Ztt.—*binotatus* p., Fln. *Olivaceus, alis fusco-bipunctatis, hypostomate supero nitidissimo viridi aut cyaneo, infero lutescente; Mas. femoribus anticis basi subtus pectinatis.* Long. $2\frac{1}{3}$; alar. 6 lin.

On pools, both inland and near the sea. (E. I.)

6. **binotatus,** Ztt. d. s. 3048 (1849); Fln. p.—*ungulatus,* L. fn. *Olivaceus, alis fusco-bipunctatis, hypostomate supero sordide virescente, infero lutescente, Fœm.,* aut *albicante, Mas., femoribus anticis basi subtus pectinatis, apice fasciculatis, tibiæ basi tuberculata.* Long. $2\frac{1}{3}$; alar. 6 lin.

Rare, in similar situations. In Messrs. Hardy's and Haliday's collections. (S. I.)

The following description applies to both these species:—

Olive above, grey beneath. Front opake blackish-brown. Beard of the cheeks tawny-yellow. Thorax above blackish. *Wings* dark hyaline *with two blackish dots,* one on the transverse vein, the other on the subapical. Halteres with a brownish spot at the tip. Abdomen

slightly brassy, with black pubescence above. Legs dark green, with black pubescence, tarsi black; fore coxæ with yellowish pubescence.

The distinctive characters are as follows:—

H. bipunctatus.

Face above burnished, gilded green, or sometimes *steel-blue* in the male, *below* dull *yellow,* the limit defined. Black cilia of the orbit continued all round.

Lamella of male attenuated at each end, blackish-brown at the tip, paler towards the base. Fourth ventral segment compressed, truncated behind, immaculate. Fore coxæ unarmed.

Fore femora in male with a row of short spines beneath from the base to the middle, and a few still smaller ones near the tip; the tibia hairy inside, with some very minute spines interspersed. In the female the fore femora have only one or two minute spines towards the tip, and sometimes a single one near the base, and the tibia is not hairy inside.

H. binotatus.

Face above tarnished, brassy-green, below glossed with *white in male, yellowish in female,* the limit undefined. Black cilia of the orbit not descending as low as the peristoma.

Lamella of male shorter, obtuse, blackish-brown. Fourth ventral segment scalloped at the end, with the two intermediate teeth tipped ferruginous. Fore coxæ with a few black bristles at the tip.

Fore femora in male with a row of short spines beneath, and a set of longer ones close together, with a blunt tooth in front of them, *before the tip; the tibia has a tubercle* in front *at the base,* and is minutely pectinated inside, indistinctly so in the first half. In the female the fore femora have a few minute spines in a row near the base.

Obs. The description and habitat of *Musca ungulata* in the 'Fauna Suecica' applying to either species indifferently, that trivial name, if retained at all, belongs by right to the last, the other having been the first satisfactorily characterized under another name. According to Zetterstedt, *H. binotatus* is the more northern and alpine species, ascending to the summits of the Alps of Lapland: in Mr. Haliday's collection is a specimen found at a height of 6000 feet on the Swiss Alps.

7. **balticus,** Mg. iv. 66. 12 (1824); Ztt.—*litoreus* p., Fln. *Olivaceus, subtus cinereus, abdominis dorso ænescente nigro-pubescente, halteribus pallidis, hypostomate infero albido, Mas.; aut lutescente, Fœm.* Long. $1\frac{1}{2}$; alar. 5 lin.

Front opake blackish-brown. *Face greenish-brassy, below* glossed with *white in male, yellowish in female.* Cheeks expanded under the eyes; beard yellowish. Arista black, not so short as in those which follow next, capillaceous only at the very tip. *Thorax above olive-brown,* faintly striped, *below yellowish ash-colour.* Wings hyaline, usually brownish in front; the veins black, the costal vein from the darkness

of the colour appearing more evidently thickened after the junction of the subcostal. *Halteres pale* yellow. *Abdomen* dark *brassy-green, with blackish pubescence above.* Lamella rounded at the tip. Legs dark brassy-green, tarsi black; fore coxæ yellowish ash-colour, with a few bristles at the tip; the pubescence on the underside of the femora and fore metatarsus, and at the tip of the hind tibia, yellowish; fore femora pectinated beneath from the base to the middle, and in front of this beset with shorter spines, continued in a single row to the tip; tibia with the sharp inner edge thickly beset with short spines in a single row, only the last one at the tip doubled; fore tarsus scarcely longer than the tibia.

Common on pools, particularly in the neighbourhood of the sea. (E. S. I.)

8. **præcox,** Lhm. ! act. acad. dec. 2. xii. 243 (1824).—*viridis,* Mg. —*oceanus,* Mq. *Pallide virescens, fronte thoraceque supra olivaceis, abdomine cano-pubescente, halteribus pallidis, hypostomate candido.* Long. $1\frac{1}{2}$; alar. 5 lin.

Hoary greenish, with little metallic lustre. *Front blackish. Face* glossy *white*; beard white; cheeks expanded less than in the preceding. Arista very short, black, the outer half of the last joint attenuated, paler, the tip capillaceous. *Thorax above olive.* Wings hyaline; veins dusky, the costal and subcostal ferruginous. Halteres pale yellow. *Pubescence of the abdomen* and legs *pale,* except that on the upper side of the femora. Lamella small. Fore legs not so short as in the preceding; the tarsus much longer than the tibia; coxæ unarmed; femora bipectinated; the inside of the tibia, except at the base, with a single row (close set) of minute spines, the last one slender.

Abundant on the shallow pools left on the sandy shores of Lough Neagh, in the summer. (I.)

9. **litoreus,** Ztt. d. s. 3051 (1849); Fln. p.—*aquaticus,* Mg.? *Obscure viridis subtus canus, fronte thoraceque supra olivaceis, hypostomate candido, halteribus apice fuscis; Mas. femoribus anticis sub apice spinulis ternis compressis luteis.* Long. $1\frac{1}{3}$; alar. 4 lin.

Dark bluish-green, beneath hoary. Front blackish. *Face* silvery-*white,* rather narrow above. Arista short, blackish, the very tip alone capillaceous. *Thorax olive* in front, brassy-green behind. Wings hyaline; veins blackish. *Halteres* pale, *with a dusky spot at the tip.* Abdomen with blackish pubescence above. Legs blackish-green. *Fore* pair moderately long; coxæ unarmed, with pale pubescence; *femora* pectinated beneath in the first half, and armed *with three* obtuse *compressed yellowish spines towards the tip, in the male*; tibia inside pectinated with short and fine spines, which are scarcely distinguishable in its upper half; tarsus scarcely longer than the tibia.

Rare. (E. I.)

10. **inæqualipes,** Ztt. d. s. 444. 4 (1843).—*præcox,* Mg.—*lito-*

reus var., Fln. *Cinereus, arista decurva, hypostomate albido, Mas.; aut flavido, Fœm.* Long. $1\frac{2}{3}$ *fœm.*, $1\frac{1}{3}$ *mas.*; alar. 5, *f.*, 6, *m.*

Cinereous. Face broad, dull *whitish in male, yellowish in female*; beard yellowish. Antennæ with the tooth beneath the tip of the third joint obtuse; *arista decurved*, the outer half capillaceous and rather pale, the penultimate joint short in proportion. Bristles of the thorax short, only two on the scutellum, three at each side of the prosternum. Wings smoky-hyaline; the veins dusky ferruginous, the costal margin appearing faintly pectinated from the scanty pubescence. Halteres yellow, with the apical edge a little darker. Abdomen with a faint brassy tinge, the pubescence pale. Lamella not exserted. Femora and tarsi beneath, fore tibia in front, hind tibia at the tip behind, with yellowish pubescence. Fore legs very short; coxæ with a few spines about the tip, and sometimes one or two at the base; femora bipectinated beneath; tibia strongly pectinated in a single row inside; in the female there are a few longer spines in a second row behind, and some more on the outside; tarsus longer than the tibia.

Abundant, on the verge of the tide, in sheltered bays; but not exclusively confined to the salt water. (E. S. I.)

Obs. Macquart's brief character of *M. inæqualipes* (dipt. ii. 453. 5) scarcely affords sufficient grounds for identifying *that* with the present species; but the synonym from Zetterstedt is unquestionable.

Genus VI. **CAMPSICNEMUS.**

Camptosceles, Hal. z. j. v. 357 (1831). *Medeterus*, Wlbg. *Medeterus* p., Mg.; Mq. *Dolichopus* p., Fln.; Roser; Ztt.

Antennæ articulo tertio apice attenuato, arista dorsali. Hypostoma angustissimum. Abdomen depressum, segmentis anterioribus æquilongis. Hypopygium immersum, muticum. Vena transversa a margine distans.

Eyes pubescent, distant on the front, *approaching very close under the antennæ* (or even contiguous in the male). Supercilia black; cilia of the lower orbit usually pale; (except sp. 5.) Proboscis but little prominent. *Antennæ* rather short; *with* the first joint naked; the second shortest, transverse, verticillated; *the third joint tapering; arista dorsal*, slender, nearly naked, the penultimate joint short. Scutellum with two long bristles; prosternum with a slight one at each side; *metathoracic epimera* not dilated, but much *elongated* obliquely *downwards*. Wings oblong; discal *transverse vein distant* by about twice its own length *from the* hind *margin*; subapical vein usually parallel with the cubital, and nearly straight, except that before the middle it traverses a round convexity of the membrane. Alulæ sparingly fringed with black hairs. Halteres usually yellowish. *Abdomen* not longer than

the thorax, *depressed*, finely pubescent, scarcely ciliated; of five segments, *the first segment not shorter than the second; hypopygium* of the male short, *imbedded, without* visible *appendages*. Legs long and slender; posterior femora near the tip in front with a single bristle, which is wanting on the pectinated femora of the males; posterior tibiæ with a few scattered spines; hind metatarsus unarmed, a little shorter than the following joint; fore coxæ more or less hairy towards the tip, the posterior ones usually with a single bristle outside. In the male the intermediate tibia is more or less distorted and pectinated.

The species of this genus are smaller than the *Hydrophori*, which they much resemble, and are less aquatic in their habits, frequenting moist grassy spots, where they may be found, in more or less abundance, at all seasons except mid-winter.

The British species are few, and may be arranged thus:—

a. Cilia of the lower orbit pale.
  b. Face yellowish below.
    c. Third joint of antennæ pointed.
      d. Thorax brassy-olive. Species 2.
      d d. Thorax dull brownish. Species 4.
    c c. Third joint of antennæ obtuse.
      e. Fore legs stout, with yellow coxæ. Species 1.
      e e. Fore legs slender, coxæ mostly dusky. Species 3.
  b b. Face silvery-white. Species 6.
a a. Cilia of the lower orbit black. Species 5.

1. **scambus,** Fln. dol. 19. 26 (1823); Mg.; Mq.; Hal.; Ztt.—*clavitibius*, Roser.—Fœm. *prodromus*, Mg. *Olivaceus*, fronte cyanescente, *hypostomate infero lutescente, coxis anticis pedibusque ferrugineis tarsis nigricantibus*, antennis obtusis; *Mas. femoribus anterioribus pectinatis, tibiis intermediis dilatatis sinuatis nigricantibus, metatarso brevissimo incrassato appendiculato*. Long. $1\frac{1}{3}$; alar. 4 lin.

Olive. Front bluish. *Face below tawny-yellow*; above whitish, nearly vanishing in the male. Antennæ with the third joint obtuse triangular in male, ovate in female. Thorax a little brassy; scutellum bluish. Wings dusky, with a faint dot at the convexity. *Legs and fore coxæ ferruginous, tarsi blackish* except at the base. *In the male* the *fore femora* are very thick, fringed beneath with curly whitish hairs, and *pectinated* beyond the middle; the tibia stout, armed with two spines inside below the middle; the first two joints of the tarsus hairy behind; the *intermediate femora pectinated* beneath, at first simply, towards the tip with a double row of shorter spines; *the tibia* much *dilated*, compressed *and sinuated*, ciliated with long bristles outside and at the tip, *blackish-brown*, with the attenuated base ferruginous and armed inside with a double row of minute spines; *the metatarsus very short*, ferruginous, *thickened*, armed *with several* black, hooked, and spiny

processes; the second joint as long as the following three together, hairy, as is also the third. The female may be known from that of the next species by the stouter fore legs with immaculate coxæ (which are more hairy outside), and only the base of the fore femora a little dusky beneath.

Common and generally diffused. (E. S. I.)

2. **curvipes,** Fln. dol. 20. 27 (1823); Mg.; Mq.; Hal.; Ztt.—*cilitibius*, Roser. *Olivaceus*, fronte cyanescente, *hypostomate infero lutescente*, pedibus ferrugineis, *geniculis tarsisque nigricantibus*, antennis subacutis; *Mas. tibiis intermediis incrassatis apice nigris, femoribus posterioribus pectinatis.* Long. 1; alar. 3 lin. et ultra.

Olive. Front bluish. *Face below tawny-yellow*; above whitish, almost vanishing in the male. Antennæ with the third joint elongate triangular in the male. Thorax a little brassy; scutellum bluish. Wings dusky, with a faint dot at the convexity. *Legs ferruginous*, the *extreme base of the tibiæ, and the tarsi*, except the base, *blackish*, the anterior tibiæ a little dusky at the tip. The coxæ and the underside of the femora towards the base (especially the fore pair) dusky. *In the male the intermediate femora* beneath are doubly *pectinated*, the anterior row ending before the tip, the other row of shorter spines interrupted; *the tibia* sinuated at the base, *thickened* after the first third on *to the blackish tip*, pectinated with long spines in front, beneath with a row of shorter ones, interrupted near the base; the metatarsus short, thickened, and ending in a black point above; the next joint longer than the following three together; the *hind femora pectinated* beneath, except at the base.

Common and generally diffused. (E. S. I.)

3. **loripes,** Hal. z. j. v. 357. 10 (1831).—*femoralis*, Ztt. *Olivaceus*, fronte cyanescente, *hypostomate infero lutescente, coxis anticis pedibusque ferrugineis, geniculis tarsisque nigricantibus*, antennis obtusis; *Mas. femoribus et tibiis intermediis interrupte pectinatis, metatarso breviore, articulis duobus sequentibus subæquilongis.* Long. 1; alar. 3 lin.

Olive. Front bluish. *Face tawny-yellow below*; above whitish, very narrow, but nearly linear. Antennæ with the third joint obtuse triangular. Thorax somewhat brassy; scutellum bluish. Wings dusky, with a faint dot at the convexity. *Legs and fore coxæ ferruginous*; *tibiæ at the extreme base, and tarsi* except the base, *blackish*, anterior tibiæ dusky at the tip; *intermediate coxæ with more than one bristle outside. In the male the intermediate femora* are dusky along the lower edge, and *pectinated* in a double row, from the base *nearly to the middle, and again before the tip; the tibia* is *pectinated* inside with short spines from the base *nearly to the middle*, where it is bent, *and after this again* begins a double row of longer spines; *the metatarsus is only as long as the fourth joint, the third twice as long, the second nearly as much.*

Not so common as the two preceding, but generally diffused. (E. S. I.)

4. **armatus,** Ztt. d. s. 3093 (1849).—*prodromus,* Hal. *Fusco-cinereus, coxis anticis pedibusque ferrugineis, tarsis nigricantibus,* antennis subacutis; *hypostomate albido, Fœm.,* aut *lutescente, Mas.; femoribus intermediis subtus ciliatis, tibiis arcuatis pectinatis.* Long. 1; alar. $2\frac{1}{2}$ lin.

Cinereous; front sometimes slightly bluish. *Face tawny-yellow in male, yellowish-white in female.* Antennæ with the third joint rather long, and acute triangular in male. *Thorax* above tinged *brownish* or ferruginous, *opake*; scutellum bluish. Wings brownish. Abdomen faintly brassy-green. *Legs and fore coxæ ferruginous,* tibiæ with a blackish dot at the base and tip, *tarsi* almost entirely *blackish*; hind metatarsus scarcely shorter than the following joint. *In the male the intermediate femora* are thickly *ciliated* beneath, *the tibiæ curved and pectinated* behind with long erect bristles.

Common on the sea-coast, even early in the spring. (E. S. I.)

5. **pusillus,** Mg. iv. 65. 11 (1824); Mq. *Ænescente-niger,* fronte cyanescente, *genubus ferrugineis, halteribus nigris; hypostomate cano, Fœm., aut atro, Mas.; tarsis anticis apice dilatatis, femoribus intermediis apice tibiisque basi pectinatis.* Long. 1; alar. 3 lin.

Black, slightly brassy. Front steel-blue. *Face deep black in male, hoary in female. Cilia of the orbit black.* Antennæ with the third joint rather acute triangular in male, obtuse in female. Scutellum bluish. Wings dusky, with the dot very faint. *Halteres blackish* at the tip at least. Legs dull black, *femora ferruginous at the tip. In the male the last two joints of the fore tarsus* are *dilated*; the fourth oval, hairy beneath; the *intermediate femora* finely ciliated beneath in a double row, and *pectinated* behind *near the tip; the tibia* compressed and somewhat curved, *close to the base* a little tooth, *pectinated* beneath, and in front a tuft of hairs sloping backwards.

Rare in marshes. In Mr. Haliday's collection. (I.)

6. **alpinus,** Hal. e. m. i. 163 (1833).—Fœm. *atomus,* Ztt.? *Olivaceus,* fronte cyanea, *hypostomate argenteo, pedibus fusco-ferrugineis, alis nigricantibus disco hyalinis; Mas.* oculis contiguis, *femoribus intermediis infra apicem spinulosis, alis subpetiolatis.* Long. $\frac{3}{4}$; alar. $2\frac{1}{3}$ lin.

Olive. Front steel-blue. *Face* very narrow, *silvery-white*; in the male it is produced over the mouth, and the eyes meet under the antennæ. Antennæ with the third joint obtuse triangular in male, rounded in female. Scutellum steel-blue. *Wings* narrow, *blackish,* with *the disc* nearly *hyaline* around the clouded transverse vein and the dot of the subapical. *In the male the wings* are much narrowed towards the base, *almost petiolated,* the outer veins more darkly bordered, the subapical vein diverging from the cubital much as they approach the tip. *Legs* and fore coxæ *dark reddish*; the base of the coxæ, the

upper edge of the femora, the base of the fore pair beneath, and the tarsi *blackish. In the male the intermediate femora have* four *short spines* beneath, in a row, *near the tip.*

Not rare on moors and mountains. (E. S. I.)

Genus VII. **THINOPHILUS.**

THINOPHILUS, Wlbg. act. holm. consp. (1844), 37; Ztt. d. s. 3100. *Medeterus* p., Hal. *Rhaphium* p., Ztt.

Antennæ articulo tertio rotundato, arista dorsali. Oculi pubescentes, distantes. Proboscis crassa, exserta, palpis magnis. Abdomen depressum, hypopygio maris immerso, appendicibus tenuibus. Vena transversa a margine distans.

Eyes pubescent, distant. *Face broad* in both sexes, not descending as low as the eyes, ending in an obtuse angle below. Supercilia black; beard of the lower occiput soft, pale. *Proboscis protuberant*, compressed below, thick behind; the *palpi large*, uncovered. *Antennæ* much shorter than the head, *with* the first joint naked, the second shortest, produced at the inside above the base of *the third joint*, which is *rounded; arista dorsal*, slender, nearly naked, the penultimate joint short. Metathoracic epimera dilated. Wings oblong; the discal *transverse vein distant from the* hind *margin* by more than its own length; subapical approaching the cubital with a gentle curve, or straight and parallel (sp. 3). *Abdomen* scarcely longer than the thorax, *depressed*, with five *segments*, the *anterior* ones nearly of *equal* length; *in the male* a little compressed behind, *the hypopygium* short and thick, partly *imbedded, its appendages slender*, inflected. Legs of moderate length; fore coxæ with some bristles outside towards the tip; tibiæ more or less spiny; anterior metatarsi long; the hind one scarcely longer than the next joint, unarmed.

The separation of this genus seems to be quite justified. Agreeing with the female *Rhaphia*, in the broad face, large proboscis and palpi, and not differing much in the wings or legs, the short depressed abdomen gives them more the figure of the two preceding genera, while in the antennæ they differ from them all.

1. **flavipalpis,** Ztt. d. s. 472. 13 (1843); Wlbg. *Ænescens, thoracis dorso antice ferruginoso, antennis subtus et pedum geniculis lutescentibus, halteribus flavidis; Mas. tarsis anterioribus albidis, nigro annulatis et pennatis, tibia antica apice calcarata, hypopygii appendicibus subæquilongis fuscis.* Long. $2\frac{1}{2}$; alar. 6 lin.

Dull brassy, beneath greenish-grey. Face burnished in the middle. Supercilia not a detached row, the upper occiput being beset with scattered spines. Palpi pale yellowish. *Antennæ reddish-tawny*, edged

with *black above and at the tip. Thorax with a rusty tarnish in front*; denuded behind and on the scutellum, with bright metallic tints. Prosternum with three pale spines at each side. Wings smoky-hyaline; the fore edge, the transverse vein, and a dot on the subapical, clouded with brown. *Halteres yellowish.* Abdomen with the margins of the segments somewhat ciliated, more so in the male; *appendages of the hypopygium nearly of equal length, dusky*, the outer pair oblong, the next bifid. *Legs blackish*; the *trochanters and* the *tip of the femora* pale *yellowish*; the *tibiæ, at the base* a little, *and* at the *tip* more largely, *ferruginous*; in the female the base of the tarsi is also ferruginous, and the femora and tibiæ sometimes almost entirely so; the posterior coxæ have a spine outside, the hind femora one in front beyond the middle; all the tibiæ are armed with strong spines, the hind pair most thickly. *In the male the anterior tarsi* and the hind metatarsus are *pale yellowish, the joints tipped with black*; the fore pair *fringed* outside *with black bristles*, increasing in length towards the end, but ceasing at the tip of the fourth joint, which has a long spine beneath; the last three joints of the intermediate tarsi are short, compressed, and ciliated at both sides; the *fore tibia* is armed *at the tip* inside *with a* black *spur*, composed of three long spines united.

Inhabits the sea-coast and about salt springs; rare with us. In Mr. Walker's collection. (E.)

2. **ruficornis,** Hal. a. n. h. ii. 184 (1838).—*maculicornis*, Ztt. *Ænescens, thoracis dorso antice ferruginoso, antennis subtus rufis, coxis anticis pedibusque flavis, tibiis apice tarsisque fuscis, halteribus flavis; Mas. hypopygii appendicibus flavis, interioribus elongatis filiformibus.* Long. 1½; alar. 4 lin.

Dull brassy, beneath greenish-grey. Face burnished in the middle. Palpi pale yellow. *Antennæ reddish-tawny*, edged with *black above and at the tip. Thorax with a rusty tarnish in front*; denuded behind and on the scutellum, with bright metallic tints. Prosternum unarmed, only a little hairy at the sides. Wings smoky-hyaline; the transverse vein and dot very faintly shaded. *Halteres* pale *yellowish. Appendages of the hypopygium of male* pale *yellow*; the outer ones small, oblong, pubescent, *the inner ones elongated into a* twisted *thread. Legs and fore coxæ pale yellowish, tibiæ* a little dusky *at the tip, tarsi dusky*, except at the base; the posterior coxæ and femora unarmed; the spines of the posterior tibiæ not numerous, the fore pair nearly unarmed.

On the sea-shore. (E. I.)

3. **versutus,** (Hal. MSS.) *Cinereus, fronte thoraceque supra ferruginosis, antennis subtus femoribus apice tibiisque ferrugineis, halteribus fuscis, Fœm.* Long. 1; alar. 2½ lin.

Grey, inclining to glaucous on the metathorax and abdomen and beneath. *Front* with a *rusty* tinge. Face not so broad as in the preceding. *Antennæ* black, a little *rufescent below*, the last joint

exceedingly short, so that the arista is close to the tip. *Thorax above* with a *rusty* tinge, opake, faintly striped. Prosternum unarmed. Wings dark hyaline, with the veins blackish to the root; the transverse vein and dot of the subapical clouded with brown. *Halteres dusky.* Legs blackish, *the tip of the femora, the tibiæ,* and the base of the tarsi *ferruginous*; the fore tibia darker, and almost unarmed, the bristles on the others very few and slight; the posterior femora near the tip in front, and the posterior coxæ outside, have each a single one of the same sort. The male is unknown.

Very rare. In Messrs. Dale's and Haliday's collections. (E. S.)

Genus VIII. **RHAPHIUM.**

RHAPHIUM, Ztt.; Lw. *Hydrochus*, Fln. *Porphyrops*, Mg. (1830). *Rhaphium* et *Porphyrops*, Mq.; Ct. *Rhaphium* (1803) et *Porphyrops* p., Mg. (1824). *Rhaphium, Perithinus,* et *Plectropus,* Hal. *Dolichopus* p., Fb. s. a. *Musca* p., Fb. *Anglearia,* Carlier.

Antennæ articulo tertio apice sensim attenuato aut lineari, arista apicali vel subapicali. Proboscis obtusa. Vena transversa a margine distans. Hypopygium maris immersum. Tibiæ spinulosæ.

Antennæ with the first joint naked, *the third joint linear, or tapering gradually; the arista at the tip, or nearly so. Proboscis* short, *obtuse.* Eyes pubescent, distant on the front. *Discal transverse vein distant from the hind margin of the wing*; subcostal vein not surpassing a third of the length of the wing, ending nearly opposite the middle of the discal areolet. *Hypopygium of the male* short, *imbedded* in the ventral cavity. *Tibiæ,* at least the posterior pairs, *armed with spines,* both at the sides and tip.

This difficult genus has been well elucidated and amplified by Loew, in an elaborate critical review of the European species, inserted in the Stettin 'Entomological Journal' for 1850. He has considered it as a receptacle for the species excluded from the other genera with terminal arista. Accordingly a natural character can scarcely be framed for it, containing, as it stands, three, if not four, groups that claim generic rank, but which it will be rather the province of a monograph to establish. The analytic table, and observations thereon, will supply as much as seems requisite, in this respect, for the purposes of a simple fauna. The correct discrimination of the species, as Loew has shown, rests chiefly on the characters drawn from the male sex; but in the previous steps of the analysis the distinctive characters com-

mon to both sexes seem to claim the preference. The British species then may be arranged as follows:—

A. Antennæ with the second joint transverse.
  B. Colour of the body not metallic, &c. Species 1, 2.
  B B. Colour of the body more or less metallic.
    C. Third joint of the antennæ elongated in both sexes, linear, not broader than the second. Alulæ tipped with black. Species 3.
    C C. Third joint of the antennæ broader than the second, usually elongated in the male. Alulæ pale.
      a. Front blue.
        b. Hind femora unarmed. (Coxæ with black bristles 2 : 2 : 1.)
          c. Coxæ all yellow. Species 4.
          c c. Posterior coxæ grey outside. Species 5, 6.
        b b. Hind femora with a spine or bristle in front near the tip. (Coxæ with black bristles 3 : 1 : 1.) Species 7.
      a a. Front the same colour as the thorax, or glossed with white.
        d. Hind femora with a single spine in front near the tip.
          e. Fore tibia with about three minute spines outside. Species 8, 9.
          e e. Fore tibia with a double row of spines outside.
            f. Arista simple. Species 10, 11.
            f f. Arista capitate in male. Species 12.
        d d. Femora with more than one spine about the tip. Species 13, 14.
        d d d. Hind femora unarmed.
          g. Face white. Species 15.
          g g. Face black in the male.
            h. Outer appendages of hypopygium forked. Species 16.
            h h. Outer appendages of hypopygium simple. Species 17.

A A. Antennæ with the tip of the second joint elongate attenuated, received into a deep notch of the base of the third. Alulæ tipped with black.
  i. Front the same colour as the thorax. Species 18, 19.
  i i. Front blue.
    k. Hind metatarsus unarmed. Species 22.
    k k. Hind metatarsus armed at the base beneath in the male. Species 20, 21.
    k k k. Hind metatarsus armed towards the tip beneath in the male. Species 23.

The first two species form a group remarkable especially for the departure from the typical number of abdominal segments in this family. The antennæ are not elongated, the third joint ovate acute, the arista long and slender, nearly terminal, the face narrow, yet more so in the male, the palpi ovate, hairy, longer than the compressed proboscis, which they cover in front; the lower orbit

has a single row of pale cilia; the scutellum bears a single long bristle at each side, and the prosternum a slighter one. The wings are somewhat narrowed towards the base, the anal angle being rounded away, the anal and subanal veins obsolete, the discal transverse vein distant by more than its own length from the hind margin, the subapical vein straight and gradually diverging from the cubital to the end. The abdomen is compressed, merely pubescent, not ciliated at the incisures; of six segments in the female, besides the vagina, and of only as many in the male, including the short hypopygium, which is furnished with a pair of inflected foliaceous, but narrow, pubescent appendages. The posterior femora have a spine in front near the tip, the posterior tibiæ not many spines, and the fore pair are nearly unarmed; the anterior metatarsi are long, the hind one shorter than the following joint, unarmed. The species are very minute, and the colours not metallic.

1. **flavicolle,** Mq. iv. 56. 24 (1824); Mq.; Ztt.—*pallidum*, Ztt. *Ferrugineum, capite abdominisque dorso fuscis.* Long. 1; alar. 2 lin.

Ferruginous. Head blackish-grey; face and palpi yellowish-white; the bristles of the vertex ferruginous. Antennæ ferruginous, the upper edge and the tip of the third joint blackish. Bristles of the thorax blackish; the pleuræ sometimes blackish under the wings. Wings yellowish-hyaline; alulæ with brownish fringe. *Abdomen dusky above,* pubescence blackish; appendages of hypopygium pale yellowish, elongated, tapering to a point. Tarsi with the last joint dusky.

Rare. (E. I.)

2. **cinereum,** (Hal. MSS.) *Cinereum, pedibus ferrugineis.* Long. 1; alar. 2 lin.

Cinereous. Face whitish. Antennæ ferruginous, with the upper edge and the tip blackish. Bristles of the vertex and thorax ferruginous. Wings yellowish-hyaline, alulæ with pale fringe. Pubescence of abdomen pale. Appendages of hypopygium oblong, pale yellowish. *Legs* and coxæ *ferruginous,* the posterior tarsi at the tip, the fore pair entirely, with the tip of the tibia, dusky. In the male the middle femora are ciliated at the tip behind.

Very rare. In Mr. Haliday's collection. (I.)

In those which follow (species 3–17), the face is narrow in the male, broad in the female, which has the proboscis prominent, compressed below, broader behind, the palpi shorter than it, but large and prominent, meeting in front; the lower occiput thickly clothed with soft hairs, which are usually white, while the supercilia are black; the scutellum with four marginal bristles; the sternum usually unarmed; the discal transverse vein distant from

the hind margin by double its own length or more; the subapical vein usually somewhat sinuated and approaching the cubital towards the tip; the alulæ commonly fringed with pale hairs; the abdomen in the male somewhat compressed behind, of six segments, besides the hypopygium, which is short and partly imbedded in the neutral cavity, furnished with two pairs of inflected appendages, the inner ones more rigid, forming the forceps, the outer ones foliaceous, usually narrow and pubescent, of a dingy yellow or dusky colour. In the female the abdomen is more depressed, of five segments. The first joint of the hind tarsus is usually rather shorter than the second and unarmed, the other metatarsi elongated.

The first of these differs from the rest in several respects, and may be considered as the type of the genus *Rhaphium*.

3. **longicorne,** Fln. dol. 5. 1 (1823); Mg.; Mq.; Ztt.; Lw.—*vitripenne*, Mg. *Nigro-æneum, nitidum, fronte violacea, alis fuscanis, alulis apice nigricantibus, antennis articulo tertio lineari longissimo, arista brevi.* Long. $2\frac{2}{3}$; alar. 5 lin.

Brassy-black, shining. Front violet. Face silvery-white. *Antennæ* elongated, the *third joint linear*, little compressed, not broader than the second, *as long as the thorax in male*, shorter in female; *arista half as long as that joint in male*, shorter in proportion in female. Scutellum bluish. Prosternum with a slight bristle on each side. *Wings dark brown*, darker about the veins; sometimes colourless in immature specimens. *Alulæ with a blackish edge* and pale fringe. Outer appendages of hypopygium dusky, pubescent, straight, oblong, obtuse; the inner ones elongated, spine-shaped, curved, crossed, enlarged at the base. Legs black; anterior tibiæ dull ferruginous; fore metatarsus in male compressed and slightly dilated at the tip.

Not rare about pools in peat-mosses. (E. S. I.)

The rest (species 4–17) have the alulæ pale, the third joint of the antennæ compressed and broader than the second, often elongated in the male, with the arista contracted; but ovate or triangular in the females, with the arista elongated. The species with the front blue have the third joint of the antennæ particularly long, and the arista very short in the male, while in the females the long arista is not quite terminal; the discal transverse vein very remote from the hind margin of the wing, the subapical very slightly sinuated or even straight; the hind metatarsus evidently shorter than the following joint. These formed part of the genus *Rhaphium*, as originally constituted; they are small, but the female notably larger than the male.—The species which follow next in order, with the third joint of the antennæ gradually

diminishing, while the arista increases in length, in the male, lead on to those (species 11–17) which Meigen at first placed in his genus *Porphyrops,* in which the third joint of the antennæ is lanceolate or ovate in the male, and little longer than in the other sex, the subapical vein of the wing distinctly sinuated, and the hind metatarsus scarcely shorter than the following joint, the pubescence at the tip of the middle coxæ sometimes elongated, as a compact pencil or spur, in the male.

4. **fasciatum,** Mg.! zw. iv. 31. 9 (1824); Mq.; Ztt.; Lw. *Nigro-æneum, nitidum, fronte violacea, pedibus flavis, femoribus posticis muticis, coxis flavis, setis nigris anteriorum binis posticarum unica; Mas. antennis thorace longioribus, arista brevissima, abdominis segmentis secundo tertioque fascia flava.* Long. 1; alar. 2½ lin.

Brassy-black, shining. Front violet. Face silvery-white. *Antennæ in male longer than the thorax; third joint* strap-shaped, *four times as long as the arista.* Wings smoky-hyaline, attenuated at the base, subapical vein straight, parallel with the cubital. *Abdomen with the second and third segments,* except the hind edge, transparent, *yellow.* Outer appendages of the hypopygium as long as the inner, oblong, yellowish, pointed and dusky at the tip; inner ones nearly as in the next two, but without the long hair at the tip. Legs pale yellow; tarsi dusky at the tip; tibiæ with the spines small and few, the fore pair minutely pectinated outside; all the coxæ yellow, with black bristles 2 : 2 : 1, and the spur of the middle pair tipped with black.—In the female the abdomen is immaculate, according to Stæger and Zetterstedt, differing in this from Macquart's description.

Rare. (E. I.)

5. **caliginosum,** Mg.! zw. iv. 29. 4 (1824); Mq.; Ztt.; Lw.—*macrocerum,* Hal.—Fœm. *nemorale,* Mg.? —*pallitarse,* Mq. *Atro-virens, nitidum, fronte cyanea, pedibus flavis, femoribus posticis muticis, coxis anterioribus bisetis posticis unisetis; Mas. antennis thorace longioribus, arista brevissima,* genubus tibiis tarsisque posticis nigricantibus, *appendicibus externis hypopygio non longioribus, internis capillo arcuato glabro terminatis.* Long. 1⅓–1⅔; alar. 3–3½ lin.

Metallic *blackish-green. Front steel-blue.* Face silvery-white. *Antennæ of male longer than the thorax; third joint strap-shaped,* a little attenuated at the tip; *arista not longer than that joint is broad.* Wings brownish, subapical vein slightly sinuated. *Inner appendages* of hypopygium much dilated at the tip and thickly fringed with pale hairs, and *ending with a long, simple, curved,* pale *hair; outer ones short,* dilated, vomeriform, dusky, pubescent. *Legs pale yellow,* posterior coxæ grey outside; in the hind pair the upper edge of the femora towards the tip, with the tibiæ and tarsi, blackish-brown, the tibiæ sometimes lighter; the anterior tarsi dusky towards the tip, the fore metatarsus very slightly dilated at the tip; *black bristles of the coxæ* 2 : 2 : 1.

The female has short antennæ, with the third joint ovate, the long arista placed a little before its tip; the wings broader than in the male; the femora and tibiæ yellow, only the tip of the hind femora a little darker, the tarsi dusky, with the metatarsus yellowish except at the tip.

Common in swampy spots. (E. S. I.)

6. **cupreum,** Mq. d. n. fr. 52. 3 (1827).—*macrocerum*, Ct. !—*appendiculatum*, Ztt.; Lw. *Atro-virens, nitidum, fronte cyanea, pedibus flavis, femoribus posticis muticis, coxis anterioribus bisetis posticis unisetis; Mas. antennis thorace longioribus, arista brevissima,* genubus tibiis tarsisque posticis nigricantibus, *appendicibus externis hypopygio duplo longioribus, internis filo compresso apice ciliato terminatis.* Long. $1\frac{1}{3}$–$1\frac{2}{3}$; alar. 3–$3\frac{1}{2}$ lin.

The description of the preceding applies to this also, so exactly, that it is necessary only to mention the differences. The *appendages* are longer, the *outer* ones *twice as long as the hypopygium,* strap-shaped, obtuse, pubescent, dingy yellow, but appearing blackish at the base, where they are applied to *the inner ones, which end in a* long, pale, *compressed,* slightly curved *thread, ciliated at the tip.* The females of the two species are scarcely distinguishable.

In the like situations with the last, and equally common. (E. S. I.)

7. **macrocerum,** Ztt. d. s. 3057. 3 (1849).—*monotrichum*, Lw.—*caliginosum*, Hal. *Atro-virens, nitidum, fronte cyanea, pedibus flavis, femoribus posticis et coxis posterioribus unisetis; Mas.* antennis thorace paulo brevioribus, arista brevi, genubus tibiis tarsisque posticis nigricantibus, *appendicibus externis hypopygio duplo longioribus capillo terminatis.* Long. $1\frac{1}{2}$; alar. 3 lin.

Metallic *blackish-green. Front steel-blue.* Face silvery-white. *Antennæ not as long as the thorax, third joint* about *three times as long as the arista.* Scutellum bluish. Wings brownish. Inner *appendages* short, dilated at the tip, but thinly ciliated on the lower edge; *outer* ones *elongated,* dilated in an angle near the base, after this attenuated, linear, *ending in a* single *long hair. Legs yellow; posterior coxæ* grey outside, and *each with a single black bristle,* the fore pair without any; in the hind pair the upper edge of the femora towards the tip, with the tibiæ and tarsi, blackish-brown, the tibiæ often lighter; the anterior tarsi dusky towards the tip; the fore metatarsus a little curved and fringed above with longer pubescence; the spines of the tibiæ rather stronger than in the preceding two species. The female probably may be best distinguished from them by the fewer black bristles on the coxæ.

Not uncommon. (E. S. I.)

8. **fissum,** Lw. e. z. xi. 128. 26 (1850). *Atro-virens, nitidum,*

fronte cano-micante, *pedibus ferrugineis, femoribus supra fusco-lineatis, posticis unispinosis, coxis pallido-pubescentibus, antennis thorace longioribus, arista brevissima, appendicibus externis hypopygio longioribus basi lobatis, Mas.* Long. $1\frac{1}{4}$; alar. 3 lin.

Metallic *blackish-green; front glossed with white.* Face silvery-white. *Antennæ longer than the thorax,* the *third joint strap-shaped,* a little attenuated at the tip, the *arista little longer than that joint is broad.* Wings brownish-hyaline. Inner *appendages* spathulated, nearly naked; *outer ones twice as long,* linear, but *at the base* above abruptly *dilated into an* obtuse *lobe. Legs* dingy *ferruginous*; the posterior *coxæ* and the base of the fore pair grey, the bristles outside as well as *the pubescence pale*; the *upper edge of the femora,* and the tarsi except at the base, *blackish-brown*; the fore metatarsus very slightly dilated at the tip; the hind femora with a spine in front near the tip.

Very rare. In Mr. Haliday's collection. (I.)

9. **brevicorne,** Ct. b. e. 568. 3 (1835).—*dissectum,* Lw. *Obscure æneum, fronte cano-micante, pedibus ferrugineis,* coxis pallido-pubescentibus, *tibiis anticis intus* et femoribus posticis apice *unispinosis; Mas.* antennis thorace paulo brevioribus, arista brevi, femoribus supra tibiis tarsisque posticis nigricantibus, *appendicibus hypopygii externis brevibus bis geminis.* Long. $1-1\frac{2}{3}$; alar. $2\frac{1}{2}-3\frac{1}{2}$ lin.

Dark brassy; front glossed with white. Face silvery-white in male, dull whitish in female. Antennæ of the male scarcely as long as the thorax, third joint elongate conic, half as long again as the arista. Wings brownish-hyaline. *Outer appendages short, each divided into two* oblong obovate lobes, of which the inner is the smaller; inner appendages very short, scarcely apparent, naked, subulate, curved, nearly meeting at the points. *Legs* dark *ferruginous*; posterior coxæ and the base of the fore pair blackish-grey, with the pubescence and bristles pale; anterior femora with a dusky stripe towards the base, the hind pair with a small spine in front near the tip, and in the male blackish on the upper edge; the tarsi blackish, as also the hind tibiæ of the male; the anterior metatarsi ferruginous; *the fore tibia, besides the* usual three small *spines outside, has one inside* (about the middle, and rather towards the back), which in the male is stronger, and followed by a row of finer hairs.

Rather rare. (E. I.)

10. **nemorum,** Mg. zw. vi. 359. 10 (1830); Lw.—*nigripes,* Mq. —*laticorne,* Fln. var.; Ztt. *Obscure æneum,* opacum, *femoribus posticis unispinosis, tibiis anticis bipectinatis; Mas.* antennis thorace parum brevioribus, arista brevi, pedibus nigris, tibiis anterioribus flavidis, coxis intermediis calcaratis, *tarsi antici articulis duobus primis subæquilongis, hypopygii appendicibus externis elongatis* apice attenuatis, hypostomate argenteo; *Fœm.* femoribus tibiisque flavidis. Long. $1\frac{3}{4}$; alar. $3\frac{1}{2}$ lin.

Dark brassy, not shining. *Face silvery-white in male*, face and front grey in the female. Antennæ with the third joint elongated lanceolate in the male, and the arista scarcely half its length, but in the female half as long again as the antennæ. Wings brownish-hyaline. *Outer appendages of hypopygium long*, slender, but dilated at the base to about a third of their length and forming an angle; inner ones ending in a short pale spine, and a little dilated before the tip. *Hind legs* of the *male* entirely black; in the others the tip of the femora, the tibiæ, and the base of the tarsi yellowish; the middle femora fringed beneath with white hairs, the fore pair with a few long hairs at the base only; the middle coxæ with a long spur; *the first two joints of the fore tarsus nearly equal in length*, compressed, the metatarsus hairy above; in the female the femora yellow, the anterior ones blackish at the base, the hind pair slightly so at the tip, and all the tibiæ yellow; the *fore tibiæ* are strongly *bipectinated*, *the hind femora have a single spine* in front near the tip.

Not uncommon. (E. I.)

11. **gravipes,** (Hal. MSS.) *Obscure æneum*, opacum, *hypostomate albo*, pedibus nigris, *femoribus posticis unispinosis*, tibiis anterioribus flavidis, *metatarso antico apice dilatato*, *hypopygii appendicibus externis* linearibus *elongatis*, *Mas*. Long. $2\frac{1}{2}$; alar. 5 lin.

Male. Dark brassy, not shining. *Face white*. Antennæ as long as the arista. Thorax with the two black stripes rather marked. Wings brownish-hyaline. *Outer appendages of the hypopygium* linear, hairy, dark rust-brown, *nearly twice as long as the inner ones*, which are straight, parallel, not dilated. Anterior tibiæ, with the tip of the femora and the base of the tarsi, yellow; spines of the fore tibia not numerous; *first joint of the fore tarsus* nearly as long as the rest together, compressed and *dilated at the tip*; the middle tarsi very slightly and gradually dilated at the tip. *Hind* legs black, *femora with a single spine*; metatarsus with a short spine above near the middle.—*Rh. confine*, Ztt., seems to differ, having the second pair of legs yellow, with only the last joint of the tarsus black and strongly dilated, and probably the hind femora unarmed.

Rare. In Mr. Walker's collection. (E.)

12. **antennatum,** Carlier ann. soc. ent. fr. iv. 659 (1835); Lw. *Viridi-æneum*, *pedibus flavis*, *genubus tibiis tarsisque posticis nigricantibus*, *femoribus posticis unispinosis*; *Mas. arista capitata*, *hypopygii appendicibus externis apice attenuatis*, hypostomate argenteo. Long. $1\frac{3}{4}$; alar. $3\frac{1}{2}$ lin.

Brassy-green. Face silvery-white in male, dull whitish in female. *Arista* longer than the antennæ, *with the tip enlarged* into an oval plate *in the male*. Wings smoky-hyaline. *Outer appendages of the hypopygium* much longer than the inner, dingy yellow, pretty broad towards the base, *gradually attenuated* and almost pointed at the tip; inner

ones a little dilated before the tip, ending in a very minute straight pale bristle. *Legs* and fore coxæ *pale yellowish*; the upper edge of the fore and *the tip of the hind femora, the hind tibiæ* (except at the base) *and the tarsi blackish-brown.* In the male the middle coxæ have a long black spur; the fore femora are clothed with pale hairs behind; the fore tibiæ slightly curved, with the spines outside not numerous; the fore metatarsus yellow, a little dilated at the tip, as long as the following four joints together.

Very rare. (E.)

13. **fulvipes,** Mg. zw. 151. 17 (1838).—*rufipes*, Mg.; Hal.—*consobrinum*, Ztt. *Obscure æneum*, opacum, *femoribus apice plurispinosis; Mas.* hypostomate albo, pedibus fuscis, tibiis flavidis, posticis apice fuscis, *femoribus anticis pectinatis, tarsi antici articulis duobus primis subæquilongis, hypopygii appendicibus externis brevibus apice dilatatis; Fœm.* femoribus tibiisque flavidis. Long. $2\frac{1}{4}$; alar. $4\frac{1}{2}$ lin.

Dark brassy, not shining. Face silvery-white in male, yellowish-grey in female. Arista as long as the antenna in male, more than twice as long in female. Wings dark hyaline. Inner *appendages* of hypopygium parallel, pointed; *outer ones much shorter, dilated at the tip*, triangular, blackish-brown. Coxæ dusky, the middle pair without a spur; *femora* dusky *in the male*, the anterior ones yellowish at the tip, the *fore pair* strongly *pectinated* beneath; yellow in the female, the fore pair sometimes a little dusky at the base beneath; the posterior ones with two spines in front near the tip; tibiæ yellow, the hind pair somewhat dusky at the tip in the male, scarcely so at the base, the fore pair moderately spinous outside; hind tarsi blackish, the others yellowish, with the tips dusky; *the first two joints of the fore tarsus compressed in male, the first* hairy, *scarcely longer than the second*, which is a little gibbous at the base beneath; in the female the first is nearly twice as long as the second.

Common on the sea-coast. (E. S. I.)

14. **elegantulum,** Mg. zw. iv. 51. 12 (1824); Ztt.; Lw.—*Wilsoni*, Ct.! *Viridi-æneum, nitidum, pedibus luteis, posticorum femoribus et tibiis apice tarsisque nigricantibus, femoribus apice plurispinosis; Mas.* hypostomate argenteo, *abdominis segmento sexto cyaneo*, hypopygii appendicibus externis elongatis attenuatis. Long. 3; alar. 6 lin.

Brassy-green, shining. Face silvery in male, yellowish-white in female. Arista longer than the antennæ. Wings brownish-hyaline. *In the male the sixth segment of the abdomen blue*, the outer appendages of the hypopygium much longer than the inner ones, and attenuated towards the tip, inner ones compressed, oblong, obtuse, twisted at the tip. *Femora, tibiæ, and anterior metatarsi yellow, hind femora and tibiæ blackish at the tip*, especially in the male, all the tibiæ pretty strongly spiny, and the *femora with several spines* about the tip. In the male the middle coxæ have a short black spur, the hind pair a slighter one; the fore metatar-

sus is compressed and dilated at the tip, nearly as long as the following joints together.

Not common about ponds. (E. S. I.)

15. **crassipes,** Mg. zw. iv. 50. 10 (1824); Mq.; Ztt.; Lw. *Obscure æneum, hypostomate argenteo, pedibus* anticis flavis, femorum basi nigra, metatarso apice dilatato, *intermediis flavis, articulis tarsi duobus ultimis dilatatis atris, posticis nigris femore mutico, hypopygii appendicibus externis* elongatis *furcatis, Mas.* Long. 2½; alar. 5 lin.

Male. Dark brassy. Face silvery-white. Antennæ shorter than the arista. Wings smoky-hyaline, dilated in the middle, the hind edge sinuated, subapical vein strongly curved rather beyond the middle. *Outer appendages of the hypopygium* very long, slender, dingy yellow, *forked* about the middle, with the upper branch short; inner appendages slender, curved, setaceous, pale. *Anterior legs yellow*; the fore femora, sometimes also the middle pair, blackish at the base; fore tibiæ with very slight and few spines; fore tarsus shorter than the tibia, the first joint longer than the rest together, compressed and dilated at the tip, the exterior joints dusky; *middle tarsi with the last two joints dilated, deep black,* the last one oval. *Hind legs* long and stout, *black; femora unarmed,* sometimes yellowish at the base; the tibiæ with very few and slight spines. The female is described as having the femora yellow, the base of the fore and the tip of the hind pair usually blackish; differing from some nearly allied ones (as of species 16) by the longer hind legs.

Rare. (E. I.)

16. **commune,** Mg.! zw. iv. 52. 13 (1824).—*spinicoxum,* Lw. *Obscure viridi-æneum, femoribus posticis muticis; Mas. capite* pedibusque *nigris,* tibiis ferruginosis, posticis basi et apice nigris, anticis crebro bipectinatis, *metatarso antico longissimo apice hirto, appendicibus externis hypopygii furcatis; Fœm.* femoribus tibiisque flavidis, femoribus anterioribus basi subtus, posticis apice supra fuscis. Long. 2½; alar. 5 lin.

Dark brassy-green, not shining. *Face* and beard *black in the male*; in the female the face yellowish-grey, and the front glossed with the same. Arista nearly half as long again as the antennæ in male, three time as long in the female. Wings brownish-hyaline, darker in female. Alulæ fringed with black in male. Inner *appendages* of hypopygium rather slender, parallel, at the tip pointed and hooked, at the base enlarged into a tooth; *outer ones* one-half longer, gradually dilated from the base, *forked* before the middle, the upper branch about one-third the length of the lower. Legs of the male black, the coxæ and femora (the fore pair behind, the others beneath) clothed with black hair, *hind femora unarmed,* the middle coxæ with a short black spur; anterior tibiæ brownish, the fore pair strongly and rather thickly bipectinated, the hind tibiæ dingy yellow, with the base and tip blackish; anterior tarsi brownish at the base, the *fore metatarsus longer than the following*

joints together, hairy towards the tip outside, but not dilated. In the female the pubescence of the coxæ is pale, the femora and tibiæ yellow, the anterior or at least the fore femora at the base beneath, the hind pair at the tip above dusky, the hind tibiæ have the extreme base dusky; the anterior tarsi yellowish, with the tip dusky; the metatarsus of the fore pair as long as all the following joints together.—As there is no other species noticed by Loew which answers more nearly to Meigen's description, it seems most probable that the latter was mistaken as to the colour of the narrow face of the male which he had in view.

Not rare. (E. S. I.)

17. **fascipes,** Mg. iv. 54. 20 (1824); Ztt.; Lw.—*latipes,* Mq.—*insulsum,* Hal. *Obscure viridi-æneum,* pedibus nigris, *tibiis* anterioribus flavidis, *posticis albidis basi apiceque nigris, femoribus posticis muticis; Mas. capite nigro, tibiis posticis apice* valde *dilatatis, appendicibus hypopygii externis integris* elongatis, internis inconspicuis; *Fœm.* femoribus posticis basi flavidis. Long. $2\frac{1}{4}$; alar. $4\frac{1}{2}$ lin.

Dark brassy-green, not shining. *Face* and beard *black in male.* In the female the face is dingy white, and the front and thorax have a yellowish-grey tarnish. Arista as long as the antennæ in male, more than twice as long in the female. Wings dark hyaline, more brownish in female. Fringe of the alulæ black in male. Inner *appendages* of the hypopygium very short, triangular, not visible externally; *outer ones* long, rather broad towards the base, much attenuated towards the tip, *undivided.* Legs olive-black, the tip of the femora, the tibiæ and the tarsi yellowish in the anterior pairs, the tarsi dusky at the tip; the base of the hind femora yellowish in the female; the *hind tibiæ yellowish-white, black at the base and* from the middle to the *tip,* much compressed and *dilated* towards the tip *in the male.*

Not rare. (E. I.)

The remaining species form a peculiar group, with the long and slender tip of the second joint of the antennæ received into a deep notch in the base of the third joint: this is elongated in the male, and begins to taper to a point at some distance from the base; in the female it is short and nearly triangular; the arista, which is seated at the tip of it, or a little before, is usually short in the male, but much longer than the antennæ in the female, with the last joint deflected. The face, narrow in the male, broad in the female, rather concave above and elevated towards the mouth, is glossed with white; the cilia of the lower orbit whitish, with but few hairs behind them; the proboscis not very prominent even in the female. The scutellum with two long bristles, the prosternum unarmed. The discal transverse vein is distant, usually by little more than its own length from the hind margin, and not very far beyond it the subapical vein is very

faintly sinuated. The alulæ have the tip blackish and the fringe mostly pale. The abdomen in the male of six segments, behind compressed, the small hypopygium without any long appendages; in the female of five segments, depressed, conical; the anterior segments with the hind margin ciliated towards the sides. The hind coxæ, and sometimes the middle pair also, have a black bristle outside, the posterior femora one at least in front near the tip; the fore tibiæ have scarcely more than a single spine or bristle outside, but often appear minutely pectinated in the apical half, one outside row of the pubescence being lengthened there, which is particularly observable in species 21–23; the hind metatarsus is nearly the same length as the following joint, and is usually armed in some peculiar way beneath in the male, except species 22.

18. **denticulatum,** Ztt. d. s. 478. 19 (1843).—*biseriatum*, Lw. *Obscure æneum*, femoribus apice tibiisque ferrugineis; *Mas. metatarso postico subtus denticulis binis acutis aduncis.* Long. $1\frac{3}{4}$; alar. $3\frac{3}{4}$ lin.

Dull brassy, not shining. Antennæ of the male scarcely half as long as the thorax; arista as long as the antennæ. The tip of the femora, the middle pair more largely, the tibiæ and the base of the anterior metatarsi usually ferruginous; but the extent of this, as well as the shade, variable; intermediate femora with a double row of short spines beneath; *hind metatarsus armed beneath before the middle with two pointed and somewhat curved teeth.*

Rare. In Mr. Walker's collection. (E.)

19. **Zelleri,** Lw. e. z. xi. 121. 21 (1850). *Obscure æneum*, femoribus apice tibiisque ferrugineis; *Mas. metatarso antico apice dilatato, metatarso postico basi subtus dente adunco lamellis appendiculato.* Long. $1\frac{1}{2}$; alar. $3\frac{1}{2}$ lin.

Dull brassy. Antennæ of male somewhat shorter than the thorax, arista half as long as the antennæ. The tip of the femora, the middle pair more largely, the tibiæ and the base of the anterior metatarsi ferruginous, the hind tibiæ black at the tip, sometimes to nearly half their length; *the fore metatarsus dilated at the tip; the hind metatarsus armed at the base beneath with a hooked tooth, accompanied by two pale foliaceous appendages*, and both this and the following joint are hairy in front. In the female described by Loew, the tibiæ are entirely ferruginous, the femora more largely so than in the male, the hind pair having only the under edge at the base and the tip blackish.

Very rare. (E. I.)

20. **pallipes,** Fb. e. s. iv. 340. 16 (1794); Mg.; Mq.; Lw.—*hamatum*, Ztt. *Viridi-æneum, fronte cyanea*, pedibus flavis; *Mas. metatarso postico basi subtus dente adunco bicuspide.* Long. $1\frac{1}{2}$; alar. $3\frac{1}{2}$ lin.

Brassy-green. Front bluish. Antennæ of the male rather shorter than the thorax, arista half as long as the third joint. Second and third segments of the abdomen often yellow at the sides, as well as beneath. Femora and tibiæ, fore coxæ, anterior metatarsi, and base of the hind pair, yellow. *Hind* legs stouter in the male, with the tibiæ and the tip of the femora more spiny, the *metatarsus* hairy in front and *armed at the base beneath with a hooked tooth, divided at the tip into two points*; the femora usually blackish at the tip, sometimes the tibiæ also, this colour again extending more largely over them, and occupying the entire tarsus; and as it spreads the pubescence and spines of the hind legs also become more abundant.

Generally diffused and abundant. (E. S. I.)

21. **monile,** (Hal. MSS.) *Viridi-æneum, fronte cyanea,* pedibus flavis, *tarsis intermediis apice dilatatis, metatarso postico basi subtus dente adunco setis appendiculato, Mas.* Long. $1\frac{1}{4}$; alar. $2\frac{1}{2}$ lin.

Brassy-green. Front bluish. Antennæ half as long as the thorax; arista nearly as long as the antennæ. Wings narrowed towards the base. Abdomen with the second segment usually yellowish beneath and at the sides. Legs and fore coxæ yellow; tarsi and hind femora dusky at the tip; fore metatarsus slightly dilated at the tip, *last two joints of the middle tarsi dilated; hind metatarsus armed at the base beneath with a sharp hooked tooth, fringed with some short* curved *bristles.*

Rare. (E. I.)

22. **pumilum,** Mg. zw. iv. 53. 17 (1824); Mq.; Hal.—*longiseta,* Ztt.; Lw. *Obscure æneum, fronte cyanea,* pedibus flavis, femoribus anticis basi fuscis; *Mas. femoribus anterioribus basi setigeris, tarsi antici articulo secundo dilatato.* Long. $1\frac{1}{4}$; alar. $2\frac{1}{4}$ lin.

Dark brassy-green. Front blue. Antennæ of the male shorter than the thorax, the third joint notched inside only, arista more than half as long as the antennæ. Wings of the male narrowed towards the base. Fringe of the alulæ dusky. Femora, tibiæ, and anterior metatarsi, with the base of the hind pair, yellowish; fore femora dusky at the base. *In the male the anterior femora have a few long bristles at the base beneath,* the hind pair are a little dusky at the tip, *the first joint of the fore tarsus is longer than all the rest, the second dilated* into a tooth below, and the first joint of the middle tarsi has a few short spines beneath.

Not rare. (E. S. I.)

23. **tarsatum,** Fln. dol. 7. 4 (1823); Ztt.—*palmipes,* Mg.; Mq. *Obscure æneum, fronte cyanea,* abdomine subtus *coxis pedibusque flavis; Mas. tarsis intermediis tibiisque posticis apice dilatatis atris, metatarso postico subtus spinis duabus imparibus.* Long. $1\frac{1}{2}$; alar. 3 lin.

Dull brassy. Front usually *bluish.* Antennæ of the male a little shorter than the thorax, the third joint oblong, with the tip obliquely truncated and pointed above, the arista inserted before the tip and

shorter than the antennæ. Fringe of the alulæ dusky. Abdomen beneath yellowish, this colour also shining through more dimly above in some of the segments after the first, the hind margin of which is strongly ciliated. *The legs with all the coxæ yellow*, the tarsi dusky at the tip. *In the male* the intermediate femora pectinated beneath; *the third and fourth joints of the middle tarsi much dilated*, and black, as well as the fifth joint and the gradually dilated apex of the second; the *hind tibiæ with the tip dilated, black*; the *hind metatarsus* rather broad, *armed beneath* a little *beyond the middle with two spines, one of which is longer* and bent.

Rare. (E. I.)

Genus IX. **MACHÆRIUM.**

MACHÆRIUM, Hal. z. j. v. 351 (1831). *Rhaphium* p., Lw.

Antennæ articulo secundo transverso, tertio elongato attenuato, basi abrupte dilatato; arista apicali. Hypostoma latum. Proboscis obtusa. Abdomen segmentis quinque, hypopygio maris recondito.

Antennæ with the second joint transverse, the third elongated attenuated, abruptly dilated at the base, the arista apical. Face broad in both sexes. *Proboscis* protuberant, *obtuse*, with large palpi. *Abdomen of five segments* in both sexes, the *hypopygium of the male* almost *concealed.*

Loew has comprised in *Rhaphium* the single species for which this genus was formed; and, in fact, there are yet greater differences between some of the groups that remain united under the former genus.

1. **maritimæ,** Hal. z. j. v. 352 (1831); Lw. Viridi-aureum, pedibus flavis, tarsis apice fuscis. Long. $2\frac{1}{3}$; alar. 5 lin.

Gilded-green, with a slight hoary tinge. Face and palpi glossed with white. Antennæ shorter than the thorax, third joint very long, arista scarcely half as long as it. Scutellum with two, prosternum with one long bristle, at each side. Wings hyaline; discal transverse vein oblique, distant by more than its own length from the hind margin; subapical vein gently curved about the middle. Alulæ and fringe pale. Abdomen conical, depressed, the fifth segment a little compressed beneath in the male, embracing and almost concealing the small hypopygium, the appendages of which are slight and not apparent externally. The pubescence of the abdomen and legs strong and black. Legs rather short; coxæ with some black bristles, fore pair more hairy; femora, tibiæ, and base of tarsi yellow; all the tibiæ spiny; hind metatarsus rather longer than the following joint. In the male the fore tarsus is rather longer, with larger onychia.

Common in sea-side marshes. (E. I.)

Genus X. **ARGYRA.**

ARGYRA, Mq. d. i. 456 (1834); Mg. vii. *Porphyrops* p., Mg.; Ct.; Hal. *Dolichopus* p., Fb. s. a.; Fln.; Ztt. *Musca* p., Fb.; Dnvn.

Antennæ articulo secundo oblique producto supra basim tertii, tertio apice attenuato; arista ante apicem aut apicali. Oculi fronte distantes. Alæ latæ, vena subcostali costam dimidiam accedente. Hypopygium maris immersum, lamellis geminis deflexis.

Antennæ with the first joint usually pubescent above, as in *Dolichopus* (except species 6); *second joint obliquely lengthened over the base of the third, which tapers to a point and bears the arista before the tip or close to it*; the third joint is usually elongated, and the arista shorter, in the male. *Eyes* pubescent, *distant on the front.* Face narrow in the male, broad in the female; lower occiput clothed with a soft beard of the same colour as the face. Proboscis very small in male, prominent in female, obtuse. Scutellum with two long bristles at each side, the disc flat and naked (except species 2). Prosternum a little hairy at each side, without spines (except species 2). *Wings broad,* not narrower at the anal angle, the *subcostal vein* longer than usual, *ending nearly opposite the tip of the discal areolet* (except species 7); discal transverse vein distant by nearly twice its own length from the hind margin. Alulæ with a long fringe and usually edged with black (except species 1). Abdomen of five segments, conical, depressed in female; in male of six segments, less attenuated behind, and rounded at the tip, where the short subglobose hypopygium is imbedded, which bears below a pair of small deflected lamellæ connected at the base, and ends with a short forceps closely applied to the ventral cavity. In species 7 alone the abdomen of the male is decidedly compressed. The coxæ all with black bristles or hairs; posterior femora with one or two spines near the tip; fore tibiæ usually with very few spines, in species 2 more numerous (as in the posterior pairs) and in a double row; hind metatarsus usually rather shorter than the following joint, equal to it in species 2, longer in species 1; the other metatarsi elongated, the fore one often longer than all the other joints together in the males.—Most of the species have a silvery gloss, most decided on the abdomen of the male; the abdomen besides is usually pale at the base beneath, and at the sides of the second and some of the following segments.—The last group of the genus *Rhaphium* might be better combined with the present genus, on account of the structure of the antennæ in particular, to which there is an approach apparent in *A. vestita.*

The British species may be arranged as follows:—

a. First joint of the antennæ pubescent above.
  b. Scutellum pubescent. Species 2.
  b b. Scutellum naked on the disc.

c. Alulæ entirely pale. Species 1.
c c. Alulæ edged with black.
d. Thorax bright green above. Species 7.
d d. Thorax with a whitish coat. Species 3–5.
a a. First joint of the antennæ naked. Species 6.

1. **confinis,** Ztt. d. s. 3090 (1849). *Thorace aureo-viridi, alulis pallidis, metatarso postico spinuloso articulum secundum superante, capite nigro, Mas.; aut albicante, Fœm.* Long. 2½; alar. 5 lin.

Gilded-green. Head black in male, whitish in female. Antennæ of male but little elongated. *Alulæ not edged with black*; the fringe pale. Abdomen of male silvery, with the sides of the second and base of the third segment yellow; in the female the first segment and the sides of the second tawny-yellow. Legs yellow; middle coxæ grey outside; tarsi dusky at the tip; *hind metatarsus longer than the following joint, and armed with some short spines*, more evident in the male, in which also the tip of the hind femora and tibiæ is dusky.

Very rare. In Mr. Walker's collection. (E.)

2. **diaphana,** Fb. mnt. ii. 349. 82 (1787); Mg.! Mq.; Ztt.—*pellucens*, Fln.—*hirtipes*, Ct.—Fœm. *versicolor*, Mg. *Thorace obscure viridi, scutello pubescente, capite nigro, Mas.; aut albicante, Fœm.* Long. 3; alar. 6 lin.

Head black in male, whitish in female. Antennæ elongated in male, arista apical in female. Thorax blackish-green (male) or dull brassy (female), with but little of a hoary shade above; *scutellum pubescent*; prosternum with three spines at each side. Subapical vein of the wing very strongly sinuated. Alulæ with broad black edge and black fringe. Abdomen of male blackish, with silvery gloss, and a pale transparent spot at each side of the second and third segments; abdomen of female dull brassy, with a shifting hoary gloss at the sides. Femora of the male nearly black, anterior ones very hairy; of the female yellowish, the base of the anterior ones and the tip of the hind pair blackish; tibiæ yellow, all of them spiny, the hind pair blackish at the tip; anterior tarsi yellow, dusky at the tip, hind pair entirely dusky; fore metatarsus ciliated beneath in the male.

Not rare. (E. S. I.)

3. **leucocephala,** Mg. zw. iv. 49. 8 (1824); Mq.; Ztt.—*fulgens*, Hal. *Thorace viridi-incano, alulis nigro-ciliatis, capite nigro, Mas.; aut albicante, Fœm.* Long. 3; alar. 6 lin.

Head black in male, whitish in female. Antennæ of male but little elongated, half as long as the arista. *Thorax green, with a hoary coat. Alulæ with black* edge and *fringe.* Abdomen of male silvery, with a pale transparent spot at each side of the second, third, and often of the fourth segment; in female brassy-green with a yellow spot at each side of the second segment. Femora dusky in male; in female yellow with

the tip of the hind pair dusky; tibiæ yellow, hind pair dusky at the tip; anterior tarsi yellow, with the tip dusky, hind pair dusky.

Common. (E. S. I.)

4. **argentata,** Mq. d. i. 457. 2 (1834); Ztt.—*argyrea,* Mg. *Thorace viridi albo-induto, alulis fusco-ciliatis, capite albicante, Mas.* Long. $2\frac{3}{4}$; alar. 5 lin.

Head silvery-white. Thorax green with a white coat. Alulæ edged with black, *the fringe brownish,* in some lights shifting to pale yellow. Abdomen silvery, with a pale transparent spot at each side of the second, third, and often of the fourth segment. Femora blackish; tibiæ yellow, the hind pair blackish at the tip; anterior tarsi yellow, dusky at the tip, hind pair dusky.—The female is not known with certainty, but probably differs from that of the preceding chiefly by the short arista and yellowish fringe of the alulæ, and from that of the following by the fore coxæ and the tip of the hind femora being dusky.

Rare. (E. I.)

5. **argentina,** Mg. zw. iv. 47. 3 (1824); Mq.; Ztt.—*semiargentella,* Dnvn.! *Thorace viridi albo-induto, alulis pallido-ciliatis, capite albicante, coxis anticis femoribus tibiisque flavis.* Long. $2–2\frac{1}{2}$; alar. 4–5 lin.

Head white, silvery in male. Antennæ of the length of the arista in the male. *Thorax green with a white coat. Alulæ with* black edge and *pale fringe.* Abdomen in male silvery, with a pale transparent spot at each side of the second, third, and often of the fourth segment; in the female brassy-green, with only the second segment spotted. *Fore coxæ,* the *femora, tibiæ,* and base of the anterior tarsi pale *yellow,* the hind femora often dusky at the tip in the male.

Common. (E. S. I.)

6. **vestita,** Wd. z. m. ii. 75. 24 (1818); Fln.; Mg.; Mq.; Ztt. *Viridis, capite albicante, antennarum articulo primo nudo; Mas. abdominis segmentis intermediis argenteis immaculatis.* Long. 2; alar. 4 lin.

Shining green. Head white. Antennæ with the first joint naked, the third joint longer than the arista in the male. Alulæ with black edge and pale fringe. *Second to fifth segments of abdomen in the male silvery, without* lateral *spots,* the sixth blackish. Fore coxæ, the femora, tibiæ, and base of anterior tarsi yellow, hind femora dusky at the tip, sometimes also the fore coxæ and the base of the anterior femora of the male.

Not rare. (E. S. I.)

7. **elongata,** Ztt. d. s. 594. 82 (1843). *Thorace viridi nitido, alulis nigro-ciliatis, hypostomate albo.* Long. $1\frac{1}{2}$; alar. 3 lin.

Shining green. Face white. Antennæ of the male with all the joints elongated, and the arista short. Wings with the subcostal vein not elongated as usual in this genus; the subapical but faintly curved, parallel with the cubital. *Alulæ with* a narrow black edge and *black*

fringe. Abdomen of the male compressed, the second and third segments yellow, except the hind margin; in the female only the second segment yellow, forming a band slightly interrupted. Fore coxæ, the femora, tibiæ, and anterior metatarsi yellow, hind femora and tibiæ blackish at the tip.

Very rare. In Mr. Haliday's collection. (S.)

Genus XI. **PORPHYROPS.**

PORPHYROPS p., Mg. zw. iv. (1824). *Medeterus* p., Mq.; Mg. *Argyra* p., Mg. *Dolichopus* p., Fb. s. a.; Dml.; Fln.; Ztt. *Musca* p., Fb.

Antennæ articulo tertio apice attenuato; arista dorsali. Alæ vena subcostali costæ trientem vix superante, transversa a margine alæ distante. Abdomen subcylindricum aut compressiusculum, segmento secundo primi longitudinem superante, hypopygio maris brevi, in apice abdominis plus minusve immerso.

Antennæ with the first joint naked, *the third joint attenuated to the tip,* usually broader than long; *the arista placed on the upper edge* and seldom far from the base of it. Eyes distant on the front; face narrow in the male, the eyes even meeting in some. Proboscis short, obtuse. *Wings with the subcostal vein not continued much beyond one-third of the costal margin, ending, therefore, more nearly opposite the middle, than the tip of the discal areolet; discal transverse vein distant from the hind margin by more than its own length, often by twice that. Abdomen somewhat cylindrical, or compressed, in the male at least; with the hypopygium short, more or less imbedded in the tip of the abdomen,* varying much in size; *the second segment of the abdomen longer than the first.* The spines of the posterior tibiæ usually few, often very slight, and the fore pair usually almost unarmed.

This genus is retained in order to receive the species with the third joint of the antennæ somewhat angular at the tip, and the arista dorsal, which have not the hypopygium so much developed as in *Dolichopus,* while they are excluded from *Hydrophorus* by the distance of the transverse vein from the margin, from *Campsicnemus* by the form of the abdomen and the proportions of the segments, and from *Argyra* as having neither the subcostal vein of the wings elongated, nor the first joint of the antennæ pubescent. They have, therefore, not many positive distinctive characters in common. *P. aulicus* would find a more natural place in the group with which the genus *Rhaphium* ends, while *P. flaviventris* has some likeness to a *Sybistroma.*

1. **pallidus,** Fln. dol. 21. 29 (1823); Ztt. *Ferrugineus, antennis brevissimis concoloribus, capite albido*, pedibus pallide flavis, tarsis apice fuscis, *alis hyalinis, vena præbrachiali leviter flexa; Mas.* angustior, hypostomate angusto, ano crasso atro nitido, appendicibus tribus, quarum duabus interioribus subdentiformibus, ultima magna rotundata tumida; *Fœm.* hypostomate nonnihil latiore, ano simplici. Long. 3; alar. 5½ lin.

Ferruginous. Face and front whitish. Middle of the metathorax and the mesosternum dusky. Hypopygium of the male black, preceded by a dusky band of the fourth segment. *Legs long, pale yellow; tarsi dusky towards the tip; femora unarmed; posterior tibiæ finely spiny, posterior metatarsi more slightly so beneath.*

Rare. In Mr. Dale's collection (E.)

2. **suturalis,** Fln. dol. 21. 32 (1823); Mg.; Ztt. *Capite thoraceque cinereis, antennis brevissimis, scutello abdomineque flavis, incisuris angustis fuscis*, pedibus pallidis, *alis subhyalinis basi angustissimis, vena præbrachiali quarta parum subarcuata in summo apice excurrente, cubitaliqùe parallelis*, transversa pone medium alæ sita; *Mas.* hypostomate angustissimo argenteo, ani clava deflexa nigra, alis subpetiolatis, tarsis vix infuscatis; *Fœm.* hypostomate latiore cano, ano simplici flavo, alis basi minus angustatis, tarsis apice fuscis. Long. 2¼; alar. 4 lin.

Head cinereous. Face white. Antennæ yellow. *Thorax cinereous, scutellum yellow. Wings darker at the fore edge, narrowed at the base, almost petiolated in the male, the subapical and cubital veins nearly parallel. Abdomen yellow*, with dusky incisures forming narrow transverse lines, more distinct in the female. Hypopygium of the male black. Legs pale yellow; tarsi dusky towards the tip, more distinctly so in the female.

Rare. In Mr. Dale's collection. (E.)

3. **Erichsonii,** Ztt. d. s. 613. 100 (1843).—*quadrifasciatus* p., Fln. *Ferrugineus, antennis brevissimis concoloribus, capite albido, incisuris abdominis nigricantibus*, pedibus pallide flavis, *alis hyalinis, vena præbrachiali leviter flexa in apice excurrente, ibique cum cubitali paululum convergente*, transversa in medio alæ sita. Long. 2¼; alar. 4 lin.

Ferruginous. Face and front whitish. Eyes of the male meeting below the antennæ. Metathorax with only a dusky line down the middle. *Wings hyaline. Abdomen with blackish-brown incisures*, which are broader in the female. Hypopygium of the male black. Legs pale yellow; fore tarsi in the male short, with the metatarsus longer than the other joints together.

Rare. In Messrs. Curtis's and Clifton's collections? (E.)

4. **quadrifasciatus,** Fb. sp. 1. ii. 448. 69 (1781); Gm.; Mg.; Mq.; Fln. p.; Ztt.—*fasciatus*, Dml. *Capite cinereo, antennis brevissimis*, scutello abdomineque flavis, hoc fasciis quatuor nigricantibus, pedibus pallide flavis, tarsorum *articulis tertio et quarto apicalibus*

plumatis atris, alis hyalinis, vena *præbrachiali* flexa in apice excurrente, ibique cum *cubitali* paululum convergente, *transversa in medio alæ sita; Mas. thorace cinereo vittis duabus obscurioribus, pedibus anticis longissimis; Fœm. thorace ferrugineo.* Long. $2\frac{1}{4}$; alar. $4\frac{1}{2}$ lin.

Head cinereous behind. Face and front white. Antennæ yellow. *Thorax in the male cinereous above with two darker lines, in the female ferruginous* with sometimes a cinereous spot before the scutellum, which is yellow, with the base dusky in the male. Metathorax entirely cinereous. *Wings hyaline.* Abdomen ferruginous, with the base of the segments blackish, forming transverse bands, which in the female are broader and notched behind at the middle so as to be almost interrupted. Hypopygium of the male black. Legs pale yellow; *in the male the first two joints of the fore tarsus very long and slender, the rest short, the third and fourth dusky fringed at each side with black bristles, the fifth joint whitish.*

Rare. In Mr. Haliday's collection. (E.)

5. **aulicus,** Mg. zw. iv. 48. 6 (1824); Ztt.—Fœm. *vividus,* Mg. *Thorace ænescente, fronte cyanea,* hypostomate albido, *antennis capite transverso paulo brevioribus nigris, abdomine ferrugineo, fasciis quatuor obscuris,* pedibus pallide flavis, tarsis fuscis, *alis subhyalinis, præbrachiali levissime flexa in summo apice excurrente, cubitalique subparallelis; Mas.* hypostomate angustissimo argenteo, antennis capite paulo tantum brevioribus, metatarso postico intus in medio subexciso et fasciculo spinularum armato; *Fœm.* hypostomate latiore cano, antennis capite fere dimidio brevioribus, metatarso postico breviter pubescente simplici et inermi. Long. $2\frac{1}{3}$; alar. 5 lin.

Head brassy-green, duller in the female. *Front blue.* Face white, of the female hoary, concave under the antennæ. *Antennæ black; third joint short, deeply notched at the base, receiving the tip of the second; arista deflected before the tip. Thorax brassy-green,* dull in the female; *scutellum bluish. Wings almost hyaline; discal transverse vein distant by little more than its own length from the hind margin. Alulæ with a narrow black edge, the fringe yellowish in the male, blackish in the female. Abdomen pale yellow with dusky incisures, transparent in the male, with the small hypopygium not prominent; in the female usually brownish above.* Legs pale yellow; middle coxæ grey outside; *posterior femora with more than one spine about the tip*; tarsi dusky, except the base; *hind metatarsus short, notched below in the male, with a tuft of bristles before the notch.*—Allied to *Rhaphium pallipes,* &c., more than to any other group, though the antennæ are so short even in the males.

Not rare. (E. I.)

6. **bicolorellus,** Ztt. d. s. 617. 104 (1843). *Thoracis postici impressi dorso nigro setoso, scutello fronteque virescentibus, hypostomate albo, antennis brevissimis testaceis apice fuscis, abdomine pedibusque albo-*

flavis, illo fasciis tribus obscuris, alis hyalinis, venis præbrachiali et cubitali parallelis, transversa in medio alæ sita; *Mas.* hypostomate angustissimo, abdomine angusto cylindrico, ano rotundato vix incrassato; *Fœm.* hypostomate latiore, abdomine subdepresso. Long. $1\frac{1}{4}$; alar. 2 lin.

Head and thorax metallic green, the long bristles blackish. Face white. Antennæ yellow, with the tip dusky. *Abdomen pale yellow, with the posterior incisures dusky, forming usually three narrow bands. Hypopygium of the male small. Legs and coxæ very* pale yellow.

Not common. In Mr. Haliday's collection. (E. I.)

7. **tenellus,** Wd. z. m. ii. 73. 20 (1818); Mg.; Mq.—*flavellus,* Ztt. *Flavo-ferrugineus, thorace postico foveola viridi,* fronte cana, hypostomate albo, *antennis brevissimis, ore subexserto pedibusque* pallide flavis, *alis flavescenti-hyalinis,* venis *præbrachiali* et *cubitali* versus apicem subconvergentibus, transversa fere in medio alæ sita; *Mas.* hypostomate angustissimo, ano rotundato parum incrassato; *Fœm.* hypostomate latiore, ano simplici. Long. $1\frac{1}{4}$; alar. 2 lin.

Yellow, inclining to ferruginous. Face and front white. Antennæ often dusky at the tip. *Thorax with a metallic green spot on the depressed space before the scutellum, the long bristles ferruginous. Abdomen of the male clavate, the hypopygium being thick and scarcely inflected.* Legs pale yellow, with the last joint dusky, the hind metatarsus rather longer than the following joint.

Not common. In Mr. Haliday's collection. (E. I.)

8. **ornatus,** Hal. z. j. v. 358. 17 (1831).—*tenellus,* Fln. p.; Ztt. *Flavo-ferrugineis, capite thoraceque supra viridibus, pedibus pallide* flavis. Long. $1\frac{1}{4}$; alar. 2 lin.

Yellow, inclining to ferruginous. Head and thorax metallic green above, the long bristles ferruginous. Abdomen of the male clavate, the abdomen being thick and scarcely inflected. Legs pale yellow; the hind metatarsus rather longer than the following joint.

Not common. In Mr. Haliday's collection. (E.)

9. **flaviventris,** Mg. zw. iv. 58. 28 (1824).—*bifasciellus,* Ztt.? *Nigro-æneus, thorace subtus flavescente, antennarum articulo tertio elongato apice fulvescente, pedibus pallide flavis; Mas. abdomine flavescente basi et apice fusco, femoribus anticis subtus tibiisque anticis intus ciliatis; Fœm. abdomine* supra nigro-cupreo. Long. $\frac{3}{4}$; alar. $1\frac{1}{4}$ lin.

Brassy-black. Face white. *Antennæ with the third joint somewhat tawny at the tip, elongated,* triangular in the male, shorter in the female; *arista near its base, long,* the joints of nearly equal length in the male. *Thorax yellowish beneath.* Fringe of alulæ black. *Abdomen of the male yellowish, with the first segment and the last one dusky above, the intermediate ones dark at the incisures. Abdomen of the female blackish-bronze above.* Appendages of the hypopygium short, nearly linear, blackish. *Legs and coxæ pale yellow; in the male the under side of the*

fore femora and the inside of the fore tibiæ ciliated; the other femora more slightly so, and only towards the base.

Not common. In the collection of Mr. Haliday. (E. I.)

10. **pulicarius,** Fln. dol. 20. 28 (1823); Ztt.—*annulipes,* Mg.—*pygmæus,* Mq.—*cinerellus,* Ztt. i. l. 705. 88. *Cinereo-viridis, parum nitidus, fronte obscure anea, hypostomate albido, antennis brevibus nigris, pedibus pallide flavis, coxis cinereis anticis apice pallidis, femoribus anticis in medio late posticisque apice fuscis, tarsis omnibus obscuris, metatarsis anterioribus flavidis, alis subfuscis.* Long. $1\frac{1}{4}$; alar. 2 lin.

Greyish-green, hardly shining. Front somewhat brassy. Hypostoma whitish. Antennæ short, black. Legs pale yellow; coxæ cinereous, fore coxæ with pale tips; fore thighs in the middle, hind thighs at the tips, brown; tarsi dusky; anterior metatarsi yellowish. Wings slightly brown. Male. Hypostoma very narrow, silvery. Antennæ acute, a little shorter than the head. Mouth withdrawn. Abdomen narrow, compressed-cylindrical. Hind tarsi with the three first joints compressed, the third fringed behind with long bristles. *Fem.* Hypostoma moderately broad, whitish. Antennæ oval, half the length of the head. Mouth decumbent; palpi pale. Abdomen compressed-conical. Tarsi bare.

Not common. In Mr. Haliday's collection. (E. I.)

11. **cirripes,** (Hal. MSS.) *Obscure æneus, pedibus nigris, alis fuscanis; Mas.* tarsorum posticorum articulo tertio ciliato. Long. $1\frac{1}{4}$; alar. 2 lin.

Dark brassy, not shining. Face white. Wings dusky. Abdomen of the male somewhat compressed; hypopygium small, without external appendages. *Legs black, femora slightly brassy, trochanters brownish.* In the male the first three joints of the hind tarsi compressed, the third fringed behind with long bristles.

Very like *P. pulicarius,* of which it takes the place on the wet slopes of mountains. (E. I.)

12. **spinigerellus,** Ztt. d. s. 604. 90 (1843).—*nigricosta*? Roser (*Chrysotus*) Wurt. zw. (1840). *Viridi-æneus, nitidus, fronte cyanea, hypostomate angusto albo-micante, antennis brevissimis nigris, pedibus et coxis pallide flavis, alis hyalinis; Mas. stigmate basali crasso atro, tibiis posticis sinuatis apice subdilatatis pilosis.* Long. $\frac{3}{4}$; alar. $1\frac{1}{4}$ lin.

Brassy-green, shining. Front blue. Hypostoma narrow, shining white. Antennæ black, very short. Wings hyaline; third and fourth longitudinal veins parallel; the fourth ending in the tip of the wing; discal transverse vein in the middle, upright. *Legs and coxæ pale yellow*; tarsi with brown tips. *Male.* Mouth withdrawn. *Costal vein thick and black at the base of the auxiliary vein.* Abdomen narrow, cylindrical. Intermediate femora with a tuft of long hairs in the middle beneath; *hind tibiæ sinuated, spinulose, subclavate, brown and hairy at the tips. Fem.* Mouth slightly decumbent. Abdomen conical.

Rare. In Mr. Haliday's collection. (I.)

Genus XII. **DIAPHORUS.**

DIAPHORUS, Mg. zw. iv. 32 (1824); Mq.; Ztt. *Dolichopus* p., Fln.; Mg.

Antennæ articulo tertio patellæformi, arista dorsali. Oculi maris fronte contigui. Hypostoma latum. Vena præbrachialis simplex, transversa ab alæ margine distans. Hypopygium maris subimmersum, subtus appendicibus binis angustis deflexis.

Antennæ short, with the first joint naked, the third joint broader than long, *rounded*: the arista placed on its upper edge, long, slender, finely pubescent. Eyes finely pubescent, meeting on the front in the male, distant in the female. The face broad in both sexes, and rather short, especially in the male, the antennæ being more distant from the vertex than usual. Occiput with a whitish beard behind the lower orbit. Proboscis very short, projecting a little forwards. Wings like those of *Argyra*, being broad about the anal angle, and the subcostal vein longer than in other genera; the præbrachial vein simple as in most, not forked as in *Psilopus*, and the subapical portion of it straight and parallel with the cubital, the discal transverse vein distant by much more than its own length from the hind margin. Fringe of the alulæ black. Abdomen conical in the female, in the male rather compressed behind, with the sixth segment exserted, the small hypopygium partly imbedded under the lip of it, armed behind with some spines, and beneath with two slender, deflected, pubescent appendages, besides the stouter forceps which is for the most part hidden in the ventral cavity. The structure differing little from *Argyra*, and not much from *Chrysotus*. The hind margins of the abdominal segments are a little ciliated at the sides. Legs rather long and slender, the spines of the tibiæ few and slender, the fore pair with scarcely any, the femora much more hairy in the male, the hind metatarsus unarmed, about as long as the following joint. The males are at once known from every other genus by the eyes meeting on the front; the females may be more easily confounded with other genera, but the form of the third joint of the antennæ and the insertion of the arista in connection with the length of the subcostal vein will help to separate them. The colour is usually dark.

1. **oculatus,** Fln. dol. 28. 22 (1823); Ztt.—*flavocinctus*, Mq.; Mg.—Fœm. *tuberculatus*, Mg. *Æneus, capite cinerascente, antennis pedibusque nigris, alis subfuscis, halteribus pallidis, femorum anteriorum apice lato tibiisque omnibus flavis; Mas. abdomine* in basi fascia pallida subpellucida. Long. 2; alar. 4 lin.

Brassy. Head with a greyish covering. Mouth and antennæ black. *Wings slightly brown. Halteres pale.* Legs black; *anterior femora yellow towards the tips; tibiæ yellow. Male.* Hypostoma broad, very short, whitish. Eyes bluish-violet, with brassy borders. Palpi small, ferruginous. Abdomen with a yellow semipellucid band on the second

segment. Ungues of the fore tarsi whitish, slightly lengthened. *Fem.* Hypostoma as broad as the front, short, hoary, with a transverse suture in the middle. Palpi black, with ferruginous tips, larger than in the male. Ungues short.

Rare. (E. I.)

2. **obscurellus,** Ztt. i. l. 706. 2. d. s. 492. 2 (1843). *Nigro-æneus, antennis hypostomate halteribus pedibusque nigris, alis hyalinis ad costam subfumatis.* Long. 1–1¼; alar. 2½–3 lin.

Black, dull. Thorax in certain aspects with a slight brassy hue, especially on the hinder part, slaty-black beneath. Wings smoky-brown towards the costa. Halteres black. Legs brownish-black. *Male.* Abdominal appendages very short. Ungues of the fore tarsi a little longer than the others.

Rare. In Mr. Haliday's collection. (E. I.)

Genus XIII. **CHRYSOTUS.**

CHRYSOTUS, Mg. zw. iv. 40 (1824); Mq.; Ztt. *Dolichopus* p., Fb. s. a.; Wd.; Fln. *Musca* p., Fb.

Antennæ articulo tertio patellæformi, arista apicali. Oculi fronte distantes, infra antennas contigui in mare. Alæ divaricatæ, vena transversa a margine distante. Hypopygium maris subimmersum, subtus appendicibus binis oblongis deflexis. Tibiæ spinulosæ.

Antennæ short, the first three joints nearly of equal length, the first naked, the *third joint* broader than long, *rounded,* with *the arista at the tip. Eyes* almost glabrous, *distant on the front, meeting below the antennæ in the male,* divided by a rather narrow face in the female. Proboscis short and obtuse. *Wings divaricated* in repose, the discal *transverse vein* very *distant from the hind margin,* lying usually rather nearer the base than the tip of the wing, the long subapical vein nearly straight and parallel with the cubital. Abdomen rather conical; in the male compressed behind, with the sixth segment exserted; the small *hypopygium partly imbedded* under the tip of it, armed behind with some very short spines, and *beneath with a pair of oblong deflected appendages. Tibiæ,* at least the posterior ones, armed *with* some *spines.*

The species of this genus are among the smallest of the family; the body is usually of an uniform bright metallic hue. They chiefly frequent the leaves of trees, in the sunshine, and are active and restless. The few species at the end, which have the bristles of the thorax yellowish and the abdomen at least partly yellow, seem to compose a distinct group, but from their extreme tenderness they shrivel up so much when dried, that it is difficult to make out the characters.

a. Body uniformly metallic; bristles of the thorax black. Species 1–4.
a a. Abdomen at least partly yellow; bristles of the thorax yellowish. Species 5, 6.

1. **nigripes,** Fb. s. a. 269. 12 (1805); Mg.; Mq.—*gramineus,* Fln.; Ztt.—*copiosus,* Mg.; Mq. Æneo-viridis, antennis nigris, alis hyalinis, halteribus flavis, *pedibus æneis, tibiis ferrugineis, tarsis nigris; Mas. tibiis posticis obscuris.* Long. 1; alar. 2 lin.

Brassy-green or bluish-green. Eyes golden-green. Mouth black. Thorax schistaceous beneath. Coxæ cinereous, with pale or ferruginous trochanters; anterior metatarsi pale. *Male.* Hind tibiæ blackish, brown in the recently disclosed insect. *Fem.* Hypostoma moderately narrow, whitish.

Generally distributed. (E. S. I.)

2. **læsus,** Wd. z. m. iii. 73. 21 (1818); Mg.; Mq.; Ztt. Æneo-viridis vel viridi-cærulescens, antennis nigris, alis hyalinis, halteribus flavis, *pedibus nigricantibus, femoribus æneis, genubus ferrugineis.* Long. 1; alar. 2 lin.

Green, or blue, or with the thorax blue and the abdomen green; *a little smaller than C. nigripes,* and with the *third joint of the antennæ larger. Tibiæ* quite black; knees pale, especially in the female, whose hypostoma is glaucous-green.

Not common. (E.)

3. **viridulus,** Fln. dol. 18. 23 (1823); Ztt.—*neglectus,* Wd.; Mg.; Mq. Æneo-viridis, antennis nigris, alis hyalinis, halteribus *pedibusque flavis,* tarsis apice nigris; *Fœm. femoribus medio nigris.* Long. 1; alar. 2 lin.

Brassy-green. Front green. Antennæ black. Scutellum of the male sometimes blue; pleuræ schistaceous. Wings hyaline. *Halteres* and *legs yellow*; tarsi with black tips. *Male.* Posterior coxæ cinereous. *Fem.* Hypostoma narrow, white. Coxæ cinereous; femora brassy-black, more or less yellow at the base and at the tips.

Generally distributed. (E. I.)

4. **cilipes,** Mg. zw. iv. 41. 3 (1824). Aureo-viridis, antennis nigris, alis hyalinis, halteribus *pedibusque flavis, femoribus tibiisque posticis apice nigris, tarsis posticis nigris, anterioribus fuscis basi flavis.* Long. $\frac{3}{4}$; alar. $1\frac{1}{4}$ lin.

Golden-green. Antennæ black. Wings hyaline. Halteres and *legs yellow; hind femora* and *hind tibiæ with black tips; anterior tarsi brown, with the metatarsus yellow; hind tarsi black.*

Not rare. (E. I.)

5. **molliculus,** Fln. dol. 23. 35 (1823); Ztt.—*lætus,* Mg. Aureo-viridis, *antennis nigris, alis cinereis, venis* pallidis *transversa discali in medio alæ sita,* halteribus pedibusque flavis; *Fœm. abdomine flavo, dorso macula basali viridi,* ano nigro. Long. $\frac{3}{4}$–1; alar. 2–$2\frac{1}{2}$ lin.

Golden-green. Front green. Hypostoma greenish-white, narrow in the male, a little broader in the female. Thorax glaucous-green beneath. *Antennæ* small, *black*. Wings grey; veins yellowish, especially towards the base; *discal transverse vein in the middle of the wing*. Halteres yellow. Legs yellow, without bristles; *fifth joint of the tarsi black*. *Male*. Abdomen yellow beneath. *Fem. Abdomen yellow, with a green spot or band at the base, and with a black dot on the second segment, last segment black*.

Rare. In Mr. Haliday's collection. (E. I.)

6. **concinnus,** Ztt. d. s. 489. 11 (1843). Aureo-viridis, *antennis flavis*, alis cinereis, *venis* pallidis *transversa discali ante medium alæ sita*, halteribus pedibusque flavis; *Fœm.* abdomine flavo, ano viridi. Long. $\frac{3}{4}$; alar. $1\frac{3}{4}$ lin.

Golden-green, *smaller than the preceding species*. *Antennæ less, yellow with the third joint brownish*. Wings grey; veins yellow; *discal transverse vein more withdrawn towards the base than in C. molliculus*. Halteres yellow. *Legs* without bristles, *yellow to the tips of the tarsi*. *Male*. Abdomen yellow beneath. *Fem. Abdomen yellow, with the last segment green*.

Rare. In Mr. Walker's collection. (E.)

Genus XIV. **MEDETERUS.**

MEDETERUS, Fischer progr. (1819). *Hydrophorus*, Mq. *Tœchobates*, Hal. *Orthobates*, Wlbg. *Hydrophorus* p., Fln.; Ztt. *Medeterus* p., Mg. *Dolichopus* p., Fb. s. a. *Musca* p., L.; Fb.

Antennæ articulo tertio ovato, arista apicali. Oculi glabri, distantes. Proboscis protuberans, crassa, obtusa. Abdomen depressum, tomentosum, muticum. Hypopygium maris elongatum, inflexum, appendiculatum. Pedes mutici.

Antennæ short, *the third joint ovate; arista* slender, *apical*. *Eyes glabrous, distant*. Face broad in both sexes, divided by a transverse line. *Proboscis protuberant, thick, obtuse*. Thorax with a large depression before the scutellum. Wings with the subapical vein obliquely converging towards the cubital, the distance of the transverse discal vein from the hind margin varying. *Abdomen depressed*, finely *tomentose, without longer hairs*, the first segment as long as the second. *Hypopygium of the male inflected* under the abdomen, and *elongated* nearly to the base of it, with the *appendages developed*, the outer ones not much dilated. *Legs* long and slender, nearly *unarmed*, the middle tibiæ having only two very minute spines between the base and middle, and the hind pair sometimes a single one in the same place; hind metatarsus much shorter than the following joint. In some small species, which can scarcely be separated from this genus, the hind metatarsus

becomes longer, while the subapical and cubital veins are parallel, and the discal transverse vein is very distant from the hind margin of the wing.

The typical species of this genus frequent dry places, running in the sunshine on walls and trunks of trees, with a peculiar gait, the legs being nearly erect and the fore part of the body elevated, while they move with seemingly equal ease in any direction without turning. The bulky proboscis opens into a very large orifice, so as to admit a prey large in proportion.

1. **diadema,** L. s. n. xii. 982. 19 (1767).—*rostratus,* Fb.; Fln.; Mg.; Mq.; Ztt. Æneo-cinereus, hypostomate aureo-viridi *nitidissimo,* ore *antennisque nigris,* thorace vittis tribus cupreo-fuscis, alis hyalinis, halteribus albis, pedibus ferrugineis. Long. $1\frac{3}{4}$; alar. 4 lin.

Brassy-cinereous. *Hypostoma bright golden-green,* sometimes chalybeous below, naked, with a snow-white transverse suture in the middle. *Antennæ quite black; third joint oval. Thorax with three bright coppery-brown stripes, slightly pubescent beneath.* Wings hyaline. Halteres white. *Legs ferruginous; femora and tarsi more or less brown.*

Rare. (E.)

2. **jaculus,** Fln. dol. 5. 7 (1823); Mg.; Mq.; Ztt. Æneo-cinereus, *hypostomate virescenti-cano, ore* nigro *exserto,* antennis nigris, thorace vittis tribus æneo-fuscis, alis hyalinis, vena transversa discali elongata ad marginem interiorem subretracto, halteribus albis; *Mas. hypopygio magno, crasso.* Long. $1\frac{1}{2}$; alar. 3 lin.

Brassy-cinereous. *Hypostoma hoary green, broad.* Crown bristly. *Mouth large, prominent,* black. Thorax with three brassy-brown stripes, slightly hairy on each side. Wings hyaline; cubital and præbrachial veins approximating towards the tip; transverse discal veins rather long, inclining towards the interior margin; pobrachial vein inclining beyond the transverse vein to the hind border, which it does not attain; axillary alulæ and halteres whitish. Legs cinereous-black, sometimes brown or ferruginous, naked, unarmed; knees ferruginous; hind femora pubescent on the outer side. *Male. Hypopygium large,* long, inflected, black, shining, with brown filiform appendages at the tip.

Not rare. (E.)

3. **truncorum,** Mg. zw. iv. 67. 15 (1824); Mq.; Ztt. Æneo-cinereus, *hypostomate æneo lateribus virescenti-pruinoso inferne viridi aut cyaneo, ore* nigro *exserto,* antennis nigris, thorace vittis tribus æneo-fuscis, alis hyalinis, vena transversa discali elongata ad marginem interiorem subretracta, halteribus albis; *Mas. hypopygio modice crasso.* Long. $1\frac{1}{4}$; alar. $2\frac{1}{2}$ lin.

Brassy-cinereous, rather smaller and darker than the preceding species, which it much resembles. *Hypostoma rather narrow, brassy, yellowish,* hoary on each side, green or blue below. Crown bristly.

Mouth large, prominent, black. Thorax with three brassy-brown stripes, slightly hairy on each side. Wings hyaline; cubital and præbrachial veins approximating towards the tip; transverse discal vein rather long, inclining towards the interior margin; pobrachial vein inclining beyond the transverse vein to the hind border, which it does not attain; axillary alulæ and halteres whitish. Legs black, naked, unarmed; knees ferruginous; hind femora pubescent on the outer side. *Male. Hypopygium rather smaller than that of M. jaculus.*

Not rare. (E. I.)

Genus XV. **APHROSYLUS.**

Antennæ articulo tertio apice attenuato, arista apicali. Proboscis incurva, apice unguiculata. Vena transversa prope marginem alæ. Hypopygium maris subglobosum, lamellis geminis inflexis. Coxæ anticæ muricatæ.

Antennæ with the first joint naked, second transverse, *the third joint attenuated to the tip; arista apical.* Occiput convex, with a pale beard behind the lower orbit. Eyes pubescent, distant on the front, approaching closely below the antennæ in the male at least. Palpi protruded, oval, very large in the male. *Proboscis* shorter than the head, conical, somewhat compressed, *incurved* towards the prosternum, receding from the palpi, and *armed at the tip with a short* stout *spine* (the projecting extremity of the tongue). *Wings* oblong, *the* discal *transverse vein distant by* much *less than its own length from the* hind *margin*, the subapical vein nearly straight and parallel with the cubital. Abdomen finely pubescent, with the first segment not longer than the second; in the female, of five segments and somewhat conical; in the male, of six segments, a little compressed behind, rounded at the tip, and enlarged by the protuberance of the *hypopygium*; this is *nearly globose*, deflected, furnished at the tip beneath *with two* broad *inflated lamellæ*, and some slender appendages between them. Legs long; the outside of the tibiæ, and the femora towards the tip, armed with some spines; the whole anterior surface of the *fore coxæ* and the under side of the fore trochanters *beset with spines*; the fore tibia armed with a strong spine or spur at the tip inside; the third metatarsus longer than the following joint; the onychia more thickened to the tip with pubescence than is usual in this family.

The form of the head, the antennæ, and the direction of the proboscis, resemble some of the *Empidæ*, as the genus *Chersodromia*. In the general form and the wings, the strongest likeness is to *Hydrophorus*, and the fore legs are armed yet more formidably than in that genus. The known species both frequent the verge of the sea.

1. **raptor,** (Hal. MSS.) *Cinereus, antennis nigris, pedibus ferrugineis.* Long. 2¼; alar. 5 lin.

Cinereus. Palpi straw-colour, silvered in the male. *Antennæ black*; the third joint twice as long as the two preceding together in the female, yet more in the male, very slender except at the base, where it is suddenly thickened; arista about as long as the antennæ, naked, thick at the base, very slender at the tip. Wings brownish-hyaline. Lamellæ of the male oblong-ovate, yellowish-brown, fringed at the tip with very long hairs. *Legs ferruginous,* the coxæ and sometimes the base of the femora greyish-black; hind femora a little dusky before the tip; tarsi much longer than the tibiæ, dusky towards the tip. The fore femora are strongly pectinated in a double row beneath, the posterior pairs only so towards the tip, and have three or four long spines in a row in front; the fore tibiæ are minutely pectinated in a double row inside, and slightly dilated at the tip. In the male the base of the second joint of the fore tarsus is a little dilated.

Rare, on rocks and shingle by the sea. First found at Torquay by Mr. Dale; it has occurred also at Dundrum Bay. (E. I.)

2. **ferox,** (Hal. MSS.) *Cinereus, antennis basi pedibusque ferrugineis.* Long. 1; alar. 2⅓ lin.

Cinereous. Palpi dusky, in the male silvered. Eyes meeting below the antennæ in the male, nearly so in the female. *Antennæ with the first two joints ferruginous,* the third joint as long as these together, conical, black; arista more than twice as long as the antennæ. Wings nearly hyaline. Lamellæ of the male broadly ovate, blackish-brown, almost naked. *Legs ferruginous*; the posterior coxæ and the base of the fore pair grey; tarsi dusky towards the tip, the posterior pairs scarcely longer than the tibiæ, the last joint a little dilated; spines of the tibiæ slender, femora with only a few scattered ones; fore tibia lengthened at the tip inside into a slender process, which bears the spur. In the male, the fore tarsus is compressed and dilated from the tip of the first joint, the exterior joints becoming oval, and the hind metatarsus is fringed in the middle with a few long erect hairs.

Not rare on the southern coast of England. Found by Mr. Walker. (E.)

Family XXII. LONCHOPTERIDÆ.

Lonchopteridæ, Ct. *Oxypteræ,* Mg. *Phytomyidæ* p., Fln.; Ztt. *Lonchopterinæ,* Mq.

Proboscis distincta. Genæ vibrissatæ. Oculi distantes. Alæ apice acuminatæ; vena cubitalis simplex; areola discalis nulla; lobus axillaris obsoletus.

Proboscis distinct. Cheeks bristly. Eyes distant. Tip of the wing pointed; cubital vein simple; discal areolet wanting; axillary lobe obsolete.

Genus I. **LONCHOPTERA.**

LONCHOPTERA, Mg. ill. mag. (1803); Mq.; Ztt.; Ct. *Dipsa*, Fln.

Corpus angustum, lineare, raro setosum. Oculi valde conspicui. Antennæ articulo tertio suborbiculato, compresso; quarto tertii apice insidente; sexto longo, setiformi, pubescente. Alæ angustæ. Pedes cursorii.

Body narrow. Head transverse, almost oval, as broad as the thorax, somewhat lengthened beneath; front broad, rather flat, beset with a few long stout bristles; epistoma nearly straight, short, depressed, contracted, bristly on each side; peristoma round, large, bristly on the border. Proboscis hardly projecting, tumid at the base. Labrum stout, sublinear, obliquely acuminated, as long as the labium. Lingua setiform, very slender, half the length of the labium. Maxillæ none. Palpi large, clavate, flat, pubescent on the fore border. Labella narrow, elongated, somewhat hairy. Antennæ 6-jointed, porrect, remote at the base; third joint broad suborbiculate; fourth and fifth very short; fourth apical; sixth long, setiform, pubescent. Thorax oval, bristly; scutellum transverse, semielliptical. Wings lanceolate, narrow, finely pubescent, without the usual transverse veins, incumbent, flat and parallel in repose; præbrachial vein forked; alulæ very small. Halteres uncovered, with large oval knobs. Abdomen with 6 segments, long, linear, depressed; first segment largest. Legs long, bristly, formed for running; claws and onychia small.

Male. Anal vein of the wing joining the hind border. Sixth abdominal segment curved beneath, with two hairy lamellæ.

Fem. Anal vein united to the pobrachial vein.

The veining of the wings may be compared to that of *Opetia*; but the præbrachial vein appears displaced, an oblique transverse vein arising in its place and running to meet the cubital near its origin, while the præbrachial arises from the pobrachial far beyond this, and is soon after parted into two branches. If the wing be viewed in a particular light, however, a fold of the membrane is visible in the usual place of the præbrachial vein at its base, as if this portion were obliterated, and the vein, where it commences distinctly, bent back to join the following. The anal vein takes its rise nearly as in *Opetia*, but in the female it runs in a curve to join the pobrachial vein before the margin. The short subcostal vein is minutely pectinated, as are also the pobrachial and

anal veins and the posterior branch of the præbrachial. The mediastinal vein is very faint and close to the subcostal.

These flies are small, very active, and abound from the beginning of spring till the end of autumn on shores, marshy woods, and in most grassy spots.

1. **lutea,** Pz.! fn. cviii. 20, 21 (1815?); Mg.; Mq.; Ztt.—*furcata,* Fln. *Testacea, alis sublimpidis.* Long. $1\frac{1}{4}$–$1\frac{1}{2}$; alar. 3–$3\frac{1}{2}$ lin.

Testaceous. Eyes and antennæ black. *Wings almost colourless.* Halteres pale yellow.

Generally distributed. (E. S. I.)

2. **flavicauda,** Mg. zw. iv. 107. 2 (1824); Mq.; Ct.! b. e. 761. —*riparia*? Mg.; Mq.—*rivalis*? Mg.; Mq.—*nigrimana*? Mg.; Mq.—*thoracica*? Mg.; Mq. *Lutea, alis subfulvis, abdomine supra fusco lateribus apiceque luteo.* Long. $1\frac{1}{4}$–$1\frac{1}{2}$; alar. $3\frac{1}{2}$–4 lin.

Luteous. Eyes and antennæ black. Wings slightly tawny. Abdomen brown above, luteous on each side and towards the tip.

Generally distributed. (E. S. I.)

3. **lacustris,** Mg. zw. iv. 107. 3 (1824); Mq.—*palustris*? Mg. *Lutea, alis subfulvis, abdomine supra nigro-fusco.* Long. $1\frac{1}{4}$–$1\frac{1}{2}$; alar. $3\frac{1}{2}$–4 lin.

Luteous. Eyes and antennæ black. *Wings slightly tawny. Abdomen blackish-brown above.*

Generally distributed. (E. S. I.)

4. **punctum,** Mg. zw. iv. 110. 9 (1824). *Ferruginea, thorace nigro-vittato, scutello apice albido, alis subfulvis, abdomine nigro-fusco apice luteo.* Long. $1\frac{1}{4}$–$1\frac{1}{2}$; alar. $3\frac{1}{2}$–4 lin.

Ferruginous. Thorax with a black stripe; tip of the scutellum whitish. Eyes and antennæ black. *Wings slightly tawny.* Halteres and legs tawny. *Abdomen dark brown above.*

Generally distributed. (E. S. I.)

5. **tristis,** Mg. zw. iv. 110. 10 (1824); Mq. *Obscure ferruginea, alis cinereis, abdomine supra fusco,* pedibus pallidioribus. Long. $1\frac{1}{4}$–$1\frac{1}{2}$; alar. $3\frac{1}{2}$–4 lin.

Dark ferruginous. Eyes and antennæ black. *Wings grey.* Halteres tawny. *Abdomen brown above.* Legs pale ferruginous.

Not rare. (E.)

Family XXIII. PLATYPEZIDÆ.

Dolichopodes p., Ll. *Platypezinæ,* Fln.; Mg.; Mq. *Dolichopidæ* p., Lch.

Proboscis brevis, maxillis nullis. *Antennæ articulo tertio compresso, arista*

apicali. Alæ vena ambiente nulla, cubitali simplici; areola brachiali utraque et anali completis, hac oblique acuminata, lobo axillari rotundato (in *Opetia* et *Platycnema* fere obsoleto). *Abdomen segmentis sex.*

Proboscis distinct. Antennæ with the last joints forming a slender arista, which is attached to the third joint as its tip. Wing with the axillary lobe rounded, nearly obsolete in the genera *Platycnema* and *Opetia; cubital vein simple; brachial veins without a spurious vein;* mediastinal vein usually distinct and distant from subcostal, the latter extending far beyond the middle of the costa, (but in *Platycnema* less distinct and nearer to the subcostal.)

The species of this family are all of small size. The genera may be thus arranged:—

Discal areolet	distinct: Præbrachial vein	forked	1. PLATYPEZA.
		simple	2. CALLOMYIA.
	none: Præbrachial vein	forked	4. OPETIA.
		simple	3. PLATYCNEMA.

Genus I. **PLATYPEZA.**

PLATYPEZA, Mg. ill. mag. (1803); Fln.; Mq.; Ztt.; Gr. *Dolichopus* p., Fb.; Ll.; Lm.

Alæ areola discali completa, vena præbrachiali furcata, ramo anteriore obliquo prope cubitalem exeunte. Tarsi postici compressi. Oculi maris fronte contigui, fœm. distantes.

Body velvety. Head semicircular, somewhat depressed in front. Labrum clavate, very short. Palpi spathulate, pubescent at the tips, as long as the labium. Labium short, cylindrical. Antennæ 6-jointed, small, straight, porrect, approximate; first and second joints almost cylindrical; third somewhat longer, elliptical, compressed; fourth and fifth very small; fourth apical; sixth long, setiform. Thorax oval; scutellum almost quadrate. Wings rather large, incumbent, flat and parallel in repose; middle transverse vein very near the base; *apical transverse vein* formed by *an oblique anterior branch of the præbrachial, approaching very near to the cubital at the end,* without meeting it. *Discal areolet complete.* Halteres uncovered. Abdomen elliptical. Anterior legs slender; *hind legs broad, especially the tarsi,* whose joints are almost equally long; first and second somewhat shorter; fifth slender. *Male.* Eyes approximate. *Fem.* Eyes remote.

The *Platypezæ* inhabit woods, and are scarce; their larvæ live in fungi.

a. Posterior branch of præbrachial vein not reaching the margin.
b. Anterior branch almost straight. Species 1.
b b. Anterior branch curved. Species 2–6.
a a. Posterior branch reaching the margin. Species 7–10.

1. **furcata,** Fln. spl. 2. 4 (1827); Mg.; Mq.; Ztt. *Nigro-fusca, alis fuscanis, venæ subapicalis ramo antico subrecto, postico abbreviato.* Long. $1\frac{3}{4}$; alar. 4 lin.

Dusky black. Head and thorax with a dull cinereous gloss in the female. Antennæ with the first two joints dull yellowish, darker in the male, the third joint black, the arista placed rather towards its upper edge, straight. *Wings* narrow, smoky-hyaline in the female; more *dusky* in the male, with the mediastinal areolet darker. *Anterior branch of the præbrachial vein almost straight, the other* considerably *abbreviated.* Discal and anal areolets distant from the hind margin, the terminal portion of the pobrachial and anal veins being nearly twice the length of the discal-transverse and subanal veins respectively. Halteres blackish-brown with the base pale. Abdomen with the hinder segments from the fourth somewhat glossy; in the male ending with an incurved hypopygium (nearly as in *Callomyia*, but the forceps at the tip small and indistinct). Legs dusky, paler in the female; tarsi except the tip (and fore tibiæ in the female) dull yellowish. Hind tarsi nearly as in *P. boletina*, viz., the joints nearly equal in length and the first three dilated in the male; third joint longest, fourth also dilated with the external angle of the tip produced, in the female.

Rare. In Mr. Haliday's collection. (I.)

2. **boletina,** Fln. plat. 4. 1 (1815); Mg.; Mq.; Ztt. *Cana,* antennis piceis, thoracis disco lurido, *alis limpidis, abdomine pedibusque fulvis.* Long. $1\frac{1}{2}$; alar. $4\frac{1}{2}$ lin.

Hoary. Antennæ piceous. Disc of the thorax lurid. *Wings colourless.* Halteres, *abdomen, and legs tawny.*

Rare. In Mr. Stephens's collection. (E.)

3. **fasciata,** Fb. s. a. 271. 22 (1805); Ll.; Pz.! fn. ciii. 20; Fln.; Mg.; Mq.; Ztt. *Cana,* antennis pedibusque piceis, *alis limpidis, abdomine basi fasciisque canis, tarsis fulvis.* Long. $1\frac{1}{2}$; alar. 5 lin.

Fem. Hoary. Antennæ piceous. Wings colourless. Halteres tawny, with piceous knobs. Abdomen black at the base and along the fore border of each segment. Legs tawny; femora and tibiæ mostly piceous.

Rare. In the collection of the Entomological Club. (E.)

4. **aterrima,** Wlk. e. m. iii. 181 (1835).—*brunnipennis*? Mq. *Atra, alis fuscis, pedibus nigris vel nigro-piceis.* Long. $1\frac{3}{4}$; alar. 5 lin.

Male. Deep black. Wings dusky. Halteres and legs black or dark piceous.

Rare. In the collection of the Entomological Club. (E.)

5. **atra,** Fln. plat. 6. 3 (1815); Mg.; Mq.; Ztt. *Atra, alis limpidis, pedibus piceis, tarsis fulvis.* Long. $1\frac{1}{2}$; alar. 4 lin.

Male. Deep black. Wings colourless. Halteres tawny, with piceous knobs. *Legs piceous; tarsi tawny.*

Rare. (E.)

6. **infumata,** Hal. a. n. h. ii. 184 (1838).—*vittata,* Ztt.—*ornata?* Mg. zw. vii. 145. 11 (1838). *Atra, ano cinereo, Mas.*; aut *Cæsia, thoracis vitta lata postice tricuspidata, abdominisque fasciis prima et secunda medio connexis atris, Fœm.* Long. 2; alar. 4½ lin.

Male deep black, the last segment of the abdomen cinereous. Female bluish-white; antennæ and tubercle of the vertex black; *mesonotum with three deep black longitudinal bands, in front confluent,* the lateral ones shorter, *behind pointed,* and not reaching to the scutellum. *Abdomen with the second and third segments deep black, the latter with a bluish-white spot on each side; the fourth and fifth at the base, the sixth entirely deep black.* Wings hyaline, veins blackish; second branch of the præbrachial vein little abbreviated, the terminal portion of the pobrachial and anal veins, respectively, only half the length of the discal-transverse and the subanal veins, which they adjoin, so that the discal and anal areolets approach the hind margin; mediastinal areolet faintly yellowish in the male. Halteres blackish in the male, in the female dusky, with pale base. Legs dusky, in the female inclining to testaceous, the base of the tibiæ paler; tarsi dull yellowish at the base, dusky towards the tip.

Not common. May. In Mr. Haliday's collection. (I.)

According to Meigen's description of *P. ornata* (*fœm.*), the second branch of the præbrachial vein is not abbreviated, and the black markings of the abdomen are somewhat differently distributed; so that, with Zetterstedt, I hesitate to cite it, although the agreement in the marking of the thorax seems to be complete.

7. **picta,** Mg. zw. vi. 358. 9 (1830); Ztt. d. s.—*fasciata,* Fln.—*fumipennis,* Ztt. i. l. *Mas. Atra, antennis basi pedibusque lividis, alis fuscis, abdominis apice cinereo. Fœm. Cana, antennis basi pedibusque flavescentibus, thoracis pictura dorsali abdominisque fasciis inæqualibus atris.* Long. 2–3; alar. 4–6 lin.

Male. Deep black, rather hairy. Head greyish-black. *Antennæ* black, *livid at the base. Wings pale brown.* Halteres brown, with black knobs. *Tip of the abdomen grey. Legs brown; knees and tarsi paler. Fem. Hoary,* almost bare. *Antennæ* brown, *testaceous at the base. Thorax with 2 black stripes in front, and 3 blackish-brown confluent spots on each side. Wings colourless.* Halteres whitish, with brown knobs. *Abdomen whitish, with black bands; some of them short. Legs yellowish.*

Rare. In the British Museum. (E.)

8. **dorsalis,** Mg. zw. iv. 7. 5 (1824); Mq. *Alis limpidis, pedibus fulvo-fuscis; Mas. atra; Fœm. thorace cinereo nigro-vittato, abdomine cano fasciis confluentibus atris.* Long. 1¼; alar. 4 lin.

Wings colourless. Halteres tawny. Legs brownish; tarsi with a tawny tinge. Male. Deep black. Fem. Thorax hoary, with 4 black stripes. Abdomen hoary, with confluent black bands.

Rare. (E.)

9. **holosericea,** Mg. zw. iv. 8. 6 (1824); Mq. *Alis limpidis; Mas. atra, abdominis apice cinereo; Fœm. thorace cinereo fusco-vittato, abdomine cano fasciis maculaque dorsali atris.* Long. 1¼; alar. 4 lin.

Wings colourless. Male. Deep black. Halteres and legs piceous. *Abdomen hoary at the tip. Fem.* Front dull grey. *Thorax brownish-grey, with darker stripes.* Halteres tawny. *Abdomen hoary, with an elliptical black spot extending from the second to the fifth segment; first segment grey; sutures black.* Legs brown.

Rare. (E.)

10. **fumipennis,** Wlk. e. m. iv. 181 (1835). *Mas.* Atra, *alis fuscis, pedibus piceis, tarsis fulvis.* Long. 1¾; alar. 3½ lin.

Male. Deep black. Wings slightly brown. Halteres tawny, with piceous knobs. Legs tawny; femora and tibiæ mostly piceous.

Rare. In the collection of the Entomological Club. (E.)

Genus II. **CALLOMYIA.**

CALLOMYIA, Mg. kl. (1804); Pz.; Fln. *Dolichopus* p., Fb.; Ll.

Alæ areola discali completa, vena præbrachiali simplici. Tarsi articulo primo longissimo. Abdomen maris apice incurvum. Oculi maris fronte contigui, fœm. distantes.

Body velvety, convex. Head semicircular. Proboscis very short. Palpi cylindrical. Labium very slender and obliquely furcate at the tip. Antennæ 6-jointed, porrect, straight, approximate; first and second joints almost cylindrical, somewhat bristly; third oblong, acute; fourth and fifth very short; fourth apical; sixth long, setiform. Wings large, finely pubescent, incumbent, flat and parallel in repose; *discal areolet long; præbrachial vein not forked*; middle transverse vein very near the base. Halteres uncovered. Abdomen oblong, cylindrical. Hind legs longer and thicker than the anterior legs; *tarsi broad*; metatarsi as long as the other 4 joints. *Male.* Colour generally black. Eyes contiguous. Abdomen compressed, narrow at the tip. *Fem.* Colour brighter, more varied. Eyes remote.

The *Callomyiæ* inhabit hedges and woods; all the species are scarce.

1. **elegans,** Fb. s. a. 271. 21 (1805); Pz.! fn. ciii. 18, 19; Ll.; Lm.; Mg.; Mq.; Ztt.—*leptiformis* (*mas.*), Fln. Atra, *halteribus fulvis, pedibus flavis posticis nigricantibus; Mas. abdominis segmentorum* tertii quartique *marginibus posticis interrupte albo-fasciatis; Fœm. thorace maculis* 3 *argenteis, abdomine fasciis antice luteis postice argenteis.* Long. 1¾; alar. 4 lin.

Black. Wings colourless. *Halteres tawny. Legs yellow; hind legs blackish. Male. Hind border of the third and fourth abdominal segments with interrupted white bands. Fem. Thorax with* 3 *silvery spots. Abdomen with* 2 *luteous and* 2 *silvery bands.*

Rare. In the British Museum. (E. I.)

2. **amœna?** Mg. zw. iv. 12. 2 (1824); Mq.; Ztt.—*leptiformis* var. *c*, Fln. Atra, *antennis pedibusque piceis*, alis limpidis, *halteribus luteis, tibiis tarsisque anterioribus* fulvis; *Fœm. thorace maculis* 3 *argenteis, abdomine antice fulvo postice fascia argentea.* Long. $1\frac{1}{2}$; alar. $3\frac{1}{2}$ lin.

Male. Deep black, velvet-like. *Antennæ piceous.* Wings colourless. *Halteres luteous. Legs piceous; anterior tibiæ and tarsi tawny,* the latter piceous towards the tips. *Fem. Thorax with* 3 *silvery spots. First, second, and third abdominal segments luteous; fifth with a silvery band. Femora tawny.*

Rare. In Mr. Stephens's collection. (E. I.)

3. **speciosa,** Mg. zw. iv. 14. 6 (1824); Mq.; Ztt. d. s.—*leptiformis* var. *β*, Ztt. a. h. Atra, alis limpidis, *halteribus piceis apice nigris, tibiis tarsisque anterioribus ferrugineis; Fœm. thorace maculis* 3 *argenteis, abdomine fasciis* 1 *lutea* 3*que argenteis, femoribus ferrugineis.* Long. $1\frac{3}{4}$; alar. 4 lin.

Deep black. Wings colourless. *Halteres piceous, with black knobs. Legs black; anterior tibiæ and tarsi ferruginous. Fem. Thorax with* 3 *silvery spots. Abdomen with* 1 *luteous and* 3 *silvery bands. Femora ferruginous.*

Rare. In the collection of the Entomological Club. (E.)

Var. Male with a silvery spot at each side of the third segment.

In Mr. Haliday's collection. (I.)

4. **leptiformis,** Fln. meth. d. 25. 2 (1810); Mg.; Mq.; Ztt. *Aterrima, halteribus fulvis, alis hyalinis; Mas. abdominis strigis* 3 *lateralibus argenteis; Fœm. thoracis maculis tribus argenteis, abdominis fasciis* 3 *interruptis, prima lutea, sequentibus* et quarta integra *argenteis.* Long. $1\frac{1}{2}$; alar. $3\frac{1}{2}$ lin.

Male. Deep black. Wings hyaline. Halteres fulvous, with a dusky streak. *Abdomen with a silvery streak on each side of the second, third, and fourth segments.* Legs dusky; fore tibiæ and metatarsi yellowish; hind tibiæ and tarsi blackish. *Fem.* Black. Head silvery. *Thorax with three silvery spots.* Halteres fulvous, immaculate. *Second segment of the abdomen with a* broad *interrupted luteous band, third and fourth with interrupted,* sixth with entire *silvery band.* Legs luteous; the tips of the tarsi, the hind pair entirely, with the hind tibiæ and knees, dusky. Legs (especially hind pair) shorter and thicker than usual.

Rare. In Mr. Haliday's collection. (I.)

5. **antennata,** Ztt. a. h. (1819). 79. 32; Fln.; Mg.; Mq. *Mas.* Atra, *alis subfuscis, halteribus pedibusque nigro-piceis. Fœm.* Nigra, alis

limpidis, *halteribus fulvis apice piceis, pedibus fulvis femoribus apice tarsisque fuscis.* Long. $1\frac{1}{4}$–$1\frac{1}{3}$; alar. $3\frac{1}{2}$ lin.

Male. Deep black. *Wings slightly brown. Halteres and legs piceous or almost black. Fem.* Black. Wings colourless. *Halteres tawny, with piceous knobs. Legs tawny; tarsi and tips of the femora brown.*

Rare. In the collection of the Entomological Club. (E. I.)

Genus III. **PLATYCNEMA.**

PLATYCNEMA, Ztt. d. s. i. 332 (1842). *Empis* p., Fln. *Cyrtoma* p., Ztt. i. l. *Atelestus*, Wlk.

Alæ areola discali nulla, vena præbrachiali simplici. Oculi fronte contigui in utroque sexu.

Body minute, black, soft, gibbous, pubescent. Head small, globose. Eyes bare, contiguous. Proboscis declining, very short. Palpi compressed, incumbent, very minute. Antennæ small, very short; third joint oval. Costa of the wing distinctly ciliated from the base to the middle; *anal areolet short; præbrachial vein not forked. Hind tibiæ and hind tarsi broad. Male.* Abdomen obtuse at the tip. *Fem.* Abdomen longer, acute.

1. **pulicaria,** Fln. d. s. emp. 33. 44 (1815); Ztt.—*sylvicola*, Wlk. Nigro-cinerea, antennis nigris, alis cinereis, halteribus pedibusque nigro-fuscis, genubus fulvis. Long. $\frac{3}{4}$; alar. $1\frac{1}{2}$ lin.

Male. Greyish-black, hairy, hardly shining. Proboscis, palpi, and antennæ black; third joint of the antennæ short-conical, a little longer than the preceding; fourth about thrice the length of all the preceding. Wings grey; stigma brown; veins black, dark tawny at the base. Halteres blackish-brown. Legs blackish-brown, hairy; knees tawny; hind tibiæ much dilated; hind metatarsi long, dilated.

Very rare. In the collection of the Entomological Club. (E. I.)

Genus IV. **OPETIA.**

OPETIA, Mg. zw. vi. 357 (1830); Mq.; Ct.; Ztt.

Corpus parvum, elongatum, rectum, subpubescens, opacum. Color niger. Proboscis subexserta. Antennæ 5-articulatæ, porrectæ, longitudine capitis; articulus primus subcyathiformis; secundus subovatus; tertius fusiformis; quartus minutus; quintus setiformis, pubescens. Thorax gibbus. Alæ incumbentes; *areola discali nulla*, pobrachiali et anali minutis; *vena præbrachiali furcata.* Alulæ minimæ, subovatæ. Pedes subnudi, inermes, simplices; tibiæ apice spinosæ; *tarsi graciles*; metatarsi postici articulo secundo fere duplo

longiores. *Oculi maris fronte contigui, fœm. distantes. Fœm.* Abdomen apice incurvo lamelliformi.

Body small, slender, pubescent, black, dull. Head transverse: face orbicular, with a row of bristles on each side. Eyes large, ovate, with a few bristles on each side. Ocelli 3, seated on a tubercle. Proboscis slightly projecting. Palpi bare, clavate, shorter than the labium. Labium short. Antennæ 5-jointed, subsetaceous, pubescent, inserted near the middle of the face, approximate at the base, nearly as long as the head; first and second joints beset with a few bristles; first somewhat cyathiform; second larger, nearly oval; third fusiform; fourth minute; fifth long, setiform, hairy to the tip. Thorax subglobose; fore part very gibbous, and projecting over the head; scutellum a little elevated. Wings incumbent and parallel in repose. Alulæ very small. Halteres large, uncovered. Abdomen with six segments. Legs simple, unarmed, almost bare; tibiæ subclavate; tips of the tibiæ slightly spurred; *hind tarsi slender*; hind metatarsi very long; onychia small, hairy. *Male.* Eyes connected. *Fem.* Eyes remote. Abdomen ending in a recurved oblong plate.

The *Opetiæ* appear in summer and autumn on leaves of shrubs.

1. **nigra,** Mg. zw. vi. 357. 1 (1830); Mq.; Ztt.—*lonchopteroides* (*fœm.*), Hal.; Ct.! b. e. 489. 2. Nigra, alis cinereis ad costam fuscis, abdomine nigro-fusco. Long. 1; alar. 2½ lin.

Black, thinly clothed with black hairs. Eyes red; facets of moderate size. Wings grey, brown beneath the fore border; veins black. Halteres and abdomen dark brown. Legs clothed with very short black hairs.

Generally distributed. (E. S. I.)

Family XXIV. PIPUNCULIDÆ.

Pipunculidæ, Ct. *Syrphiæ* p., Ll. *Megacephali*, Mg. *Cephalopsides* p., Ll. *Syrphici*, Fln. *Pipunculini*, Ztt.

Caput hemisphæricum, oculis maximis peristoma stringentibus, fronte et epistomate angustissimis. Proboscis brevis, maxillis nullis, palpis erectis. *Antennæ articulo tertio compresso deflexo, arista dorsali suberecta. Alæ vena ambiente nulla, cubitali simplici*, areola brachiali utraque completa, *lobo axillari rotundato.* Tibiæ apice muticæ. Abdomen segmentis sex.

Head large, *hemispherical*, with concave occiput versatile on a projecting slender neck of prothorax. *Eyes* very large, *bordering the* narrow *peristoma*, unarmed; face and front narrow linear, the eyes in the male sometimes meeting on the front. Ocelli three in a triangle on the vertex. *Antennæ* short, the *third joint compressed and deflected, bearing above a* slender *ascending arista*, 3-jointed, the first two joints

very minute. Proboscis short, scarcely projecting; the labella pouting, the labrum and tongue very short; the palpi slender, erect; maxillæ none. Thorax subglobose; no suture of the mesonotum before the wings; sides of the prothorax with defined callosities. Wings long; the *costal vein not continued round the hind margin*; mediastinal distinct; *cubital simple*; præbrachial outwardly bent towards the cubital, and ending close to it, so that the subapical areolet tapers almost to a point; brachial areolets both complete, the posterior reaching to about the third of the wing's length, the anterior longer; anal areolet tapering to a point close to the hind margin. (In some the præbrachial and anal veins are imperfect, and the subapical, discal, and anal areolets consequently undefined.) *Axillary lobe rounded*; alulæ inconspicuous. Abdomen cylindrical or depressed, *of six* segments, besides the hypopygium, which in the female forms an incurved pointed horny ovipositor. Legs rather short; fore pair but little removed, their coxæ reaching to the intermediate pair; tibiæ without terminal spines; tarsi with the first joint longest; onychia large; empodium setaceous, recurved.

a. Wings with a discal areolet. Genus 1. PIPUNCULUS.
a a. Wings without a discal areolet. Genus 2. CHALARUS.

Genus I. **PIPUNCULUS.**

PIPUNCULUS, Ll. h. n. xiv. (1810); Mg.; St. F. et Sw.; Hal.; Mq. *Cephalops*, Fln. *Microcera*, Mg.

Alæ vena cubitali undulata, præbrachiali et anali integris; areolis subapicali et anali apice attenuatis.

Head semicircular, large; epistoma small, linear; peristoma narrow. Proboscis short, concealed. Labrum horny, triangular, very short. Lingua horny, pointed, extremely small. Palpi clavate, somewhat curved, bare, with 2 little bristles at the tip, as long as the labium. Labium short, thick, fleshy, cylindrical. Antennæ approximate, small, 5-jointed; first joint extremely small; second short, cyathiform; third deflexed, compressed, generally pointed; fourth seated on the base of the third; fifth setiform. Thorax oval; scutellum semicircular. Wings long, pubescent, incumbent and parallel in repose; *cubital vein undulated; præbrachial and anal veins complete*; alulæ very small. Halteres uncovered. *Male*. Eyes contiguous. Tip of the abdomen obtuse. *Fem*. Eyes parted. Tip of the abdomen horny, pointed, curved beneath.

The *Pipunculi* inhabit woods and fields, and often hover in the air. The species may be thus grouped:—

a. Præbrachial vein simple.
  b. Abdomen cylindrical.
    c. Wings without a stigma. Species 1–3.
    c c. Wings with a stigma. Species 4–6.

b b. Abdomen flat. Species 7, 8.
a a. Præbrachial vein forked. Species 9.

1. **maculatus,** Wlk. e. m. ii. 264. 1 (1834). — *lateralis,* Mq. *Æneo-ater, abdominis lateribus pedibusque fulvis; Mas. alis fuscis; Fœm. alis subcinereis.* Long. $1\frac{1}{2}$–$1\frac{3}{4}$; alar. $2\frac{3}{4}$–$3\frac{1}{2}$ lin.

Æneous-black. Head silvery. Halteres yellow. *Abdomen with the second and third segments tawny on each side. Legs tawny. Male. Wings brown. Fem. Wings pale grey.*

Not common. In the collection of the Entomological Club. (E. I.)

2. **sylvaticus,** Mg. zw. iv. 20. 3 (1824); Mq.; Wlk.; Ztt. *Nigro-viridis, genubus tarsisque fulvis; Mas. alis subfuscis; Fœm. alis cinereis.* Long. $1\frac{1}{4}$–$1\frac{1}{3}$; alar. 2–$2\frac{1}{4}$ lin.

Greenish-black. Head silvery. Halteres tawny. *Knees and tarsi tawny. Male. Wings brownish. Fem. Wings grey.*

Not rare. (E. I.)

3. **geniculatus,** Mg. zw. iv. 20. 2 (1824); Mq.; Wlk.; Ztt. *Niger, genubus fulvis; Mas. alis subfuscis; Fœm. alis subcinereis.* Long. $1\frac{1}{4}$–$\frac{3}{4}$; alar. $2\frac{1}{2}$–$3\frac{1}{2}$ lin.

Black. Head silvery. Wings rather short. Halteres tawny. *Knees tawny. Male. Wings slightly brown. Fem. Wings pale grey.*

Not rare. (E.)

4. **flavipes,** Mg. zw. iv. 21. 5 (1824); Mq.; Wlk.; Ztt. *Niger, alis cinereis, pedibus fulvis.* Long. $1\frac{3}{4}$–2; alar. $4\frac{1}{2}$–5 lin.

Black. Head silvery. *Wings grey.* Halteres and *legs tawny.*

Not rare. (E. S. I.)

5. **pratorum,** Fln. d. s. syrph. 15. 1 (1816); Mg.; Mq.; Ct.! b. e. 757; Wlk.; Ztt. *Nigro-cinereus, alis subcinereis, pedibus fulvis, femoribus nigro-fasciatis.* Long. $1\frac{1}{2}$; alar. 4 lin.

Black, tinged with grey. Head silvery. *Wings pale grey.* Halteres yellow. *Legs tawny; femora with broad black bands.*

Generally distributed. (E. S.)

6. **campestris,** Ll. h. n. xiv. 392 (1810); Mg.; Lch.; Mq.; Wlk.; Ztt.—*cephalotes,* Bosc. *Niger, thoracis lateribus abdomineque basi canis, alis subcinereis, tibiis basi genubusque flavis.* Long. $1\frac{1}{2}$–2; alar. 4–5 lin.

Black. Head silvery. Sides of the thorax and base of the abdomen hoary. Wings slightly grey. Halteres tawny. *Tibiæ towards the base and knees yellow.*

Generally distributed. (E. I.)

7. **modestus,** Hal. e. m. 1. 162 (1833); Wlk. *Ater, opacus, antennis acuminatis, abdominis maculis lateralibus cinereis.* Long. 2; alar. 5 lin.

Black, dull. Front silvery, glossed above with black. *Antennæ acuminated. Wings dark grey.* Halteres piceous. *Abdomen with lateral grey triangular spots almost meeting in the middle. Knees and*

base of fore tarsi yellowish. Fem. Hypopygium short, globular, with a blackish spine.

Not rare. (E.)

8. **ruralis,** Mg. zw. iv. 22. 8 (1824); Mq.; Wlk.; Ztt. *Cinereus, alis subcinereis, abdominis lateribus cano-maculatis, genubus fulvis, tarsis piceis.* Long. $1\frac{1}{4}$–2; alar. $4\frac{1}{2}$–$5\frac{1}{2}$ lin.

Cinereous. Head silvery. *Wings pale grey.* Halteres piceous, with whitish bands. *Abdomen with triangular hoary spots along each side.* Legs black; *knees tawny, tarsi piceous.*

Generally distributed. (E. S.)

9. **auctus,** Fln. d. s. syrph. 61. 1. 2 (1816); Mg.; Mq.; Wlk.; Ztt. Cinereus, alis subcinereis, abdominis lateribus cano-maculatis, genubus fulvis, tarsis piceis. Long. 2; alar. $4\frac{1}{2}$ lin.

Cinereous. Head silvery. Wings pale grey. Halteres ferruginous. Abdomen with triangular hoary spots along each side. Legs black; knees tawny; tarsi piceous.

Not common. (E. S. I.)

Genus II. **CHALARUS.**

CHALARUS, Wlk. e. m. ii. 269 (1834). *Pipunculus* p., Mg. *Cephalops* p., Fln. *Ateleneura*, Mq.

Alæ vena cubitali fere recta, præbrachiali et anali abbreviatis.

Antennæ with the third joint oval. Wings of moderate length; *third cubital vein almost straight; præbrachial and anal veins imperfect.* Abdomen depressed.

Male. Eyes parted.

1. **holosericeus,** Mg. zw. iv. 34. 12 (1824); Mq.; Wlk.; Ztt. Niger, thoracis *lateribus abdomineque nigro-fuscis, alis subcinereis, pedibus fuscis; Fœm. tarsis flavis.* Long. 1; alar. 2 lin.

Black, dull. *Sides of the thorax and abdomen blackish-brown.* Wings pale grey. *Male. Halteres and legs brown; knees and tarsi paler. Fem. Halteres and legs yellow; femora and tibiæ mostly brown.*

Not common. (E. I.)

2. **spurius,** Fln. d. s. syrph. 16. 3 (1816); Mg.; Wlk.; Ztt.—*velutinus,* Mq. Niger, *alis cinereis; Fœm. abdomine tarsisque nigro-fuscis.* Long. 1–$1\frac{1}{4}$; alar. 2–$2\frac{1}{2}$ lin.

Black, dull, hairy. *Wings dark grey. Fem. Wings paler.* Abdomen and *tarsi blackish-brown.*

Not common. (E. I.)

3. **exiguus,** Hal. e.m. l. 162 (1833). *Cinereus, alis limpidis, halteribus albis, pedibus fusco-pallidis.* Long. $\frac{3}{4}$; alar. $1\frac{1}{2}$ lin.

Obscure cinereous. Wings colourless, with a faint brown costal spot. *Halteres white. Legs dusky yellow; femora and middle of hind tibiæ brown.*

Rare. (E.) In Mr. Haliday's collection.

Family XXV. SYRPHIDÆ.

Syrphidæ, Lch.; Wtw. *Syrphiæ,* Ll. g. e.; Lm.; St. F. et Srv.; Mq. *Syrphii,* Mq. *Syrphides,* Ll. r. a. *Syrphidia* p., Rfnq. *Syrphici,* Fln.; Ztt.; Ags. *Sclerostoma* p., Dmr. *Aplocera* p., Dmr. *Chetolona* p., Dmr. *Syrphina,* Nwm. *Syrphoides,* Bmr. *Sirphina,* Rdn.

Proboscis porrecta, *basi geniculata, maxillis et palpis basi connatis. Antennæ articulo tertio compresso, arista* 3-*articulata,* articulis penultimis minutis aut indistinctis. *Alæ lobo axillari rotundato; vena ambiente nulla, cubitali simplici, spuriis binis; areola altera completa juxta discalem propius apicem,* brachiali utraque et anali alæ dimidium circiter attingentibus. Abdomen segmentis 5 (raro pluribus). Tibiæ muticæ.

Body large or middle-sized; ovate, oblong, or linear; more or less covered with short pubescence or soft hairs, very rarely a few stiff bristles intermixed on the thorax (*Volucella, Chrysoclumis*); colours often brilliant, sometimes metallic, yellow predominating in the markings. Head about as broad as the thorax; eyes not touching the peristoma, often meeting on the front in the males, but distant in the females. Occiput concave; neck ligament very slender, so that the head is versatile. Ocelli three in a triangle on the unarmed vertex. Face ample, unarmed; often elongated downwards or forwards, and gibbous below. Peristoma usually oblong, expanded, with a prominent margin, to contain the proboscis when retracted. Mentum developed, membranous, forming a flexible fulcrum jointed at an angle with the porrected proboscis. Labella pouting, fleshy. Labrum stout, strongly notched on each side near the tip. Palpi slender, more or less connate with the setaceous maxillæ, their relative length being variable, rarely very minute (*Microdon*). Antennæ porrected or drooping, the third joint large, bearing on its upper edge, but rarely at the extremity (*Ceria, Callicera*), the slender terminal joints which form the arista or style; these normally are three, but the first two are very short, and often become indistinct. Thorax rather depressed; the mesosternum little sloped, not entirely concealed by the fore coxæ; suture before the wings, interrupted in the middle; scutellum rather large, usually semicircular, overhanging the metathorax. Lips of metathoracic spiracles, and a twisted filiform appendage on each side between them and the base of the

alulæ, lanuginose. Wings incumbent or divaricated in repose; hind margin veinless, the costal vein ending at or before the tip of the wing, where it receives the cubital, or radial in case the cubital is previously merged in this (*Volucella*, *Eristalis*); mediastinal vein distinct, ending about the middle of costa, subcostal continued nearer to the tip; mediastinal areolet (contained between the two) often coloured, appearing as a narrow stigma; ternate areolet long, viz., the præbrachial extending to about the half-length of the wing, the pobrachial not much shorter, the anal again longer, tapering to a point nearly at the hind margin; discal approaching the hind margin; a transverse vein connecting the cubital with the præbrachial vein near the margin, forming a complete subapical areolet, often like the discal in size and shape, rarely divided into two by another transverse vein about the middle (*Microdon*); externo-medial veins not quite reaching the margin. Two spurious veins, one before the præbrachial, another behind the pobrachial. The longitudinal creases of the wing are particularly strong in this family, the elevations being crowned by the subcostal, the first spurious, the pobrachial veins, and the axillary axis, respectively. Axillary lobe usually ample and rounded, rarely indistinct (see table of genera). Alulæ moderately large, rarely so large as to cover the halteres (*Eristalis*), or very small (*Baccha*, &c.). Abdomen seldom showing more than five segments externally, the first short, but complete below as well as above; the sides sometimes margined; the sexual appendages not very obvious: the abdomen is often nearly filled with air, and partly diaphanous. Legs of moderate length; fore pair distant from the intermediate, and the coxæ not so long as to reach these; hind femora sometimes enlarged, and toothed or spined; tibiæ without terminal spurs, posterior pairs rarely with a few bristles at the sides (*Chrysoclamis*); tarsi with the first joint sometimes enlarged; onychia broad, membranous, hairy beneath; empodium recurved, slender, pointed, pubescent.

The coalescence of the palpi with the maxillæ, and the marked spurious veins, are characters almost peculiar to this family. They differ besides, from the *Platypezidæ* by the length of the ternate areolets, and the closed subapical areolet,—from *Pipunculidæ* by the same characters in a less degree, and also by the ample face,—from *Conopidæ* by the long pobrachial areolet,—from the "calyptrate" *Muscidæ* by the length of the anal also.

The flies of this family are not predaceous, feeding mostly on the nectar of flowers. They love to hover in the air over one spot, their wings almost invisible through the rapidity of their vibration, accompanied with a shrill hum; if alarmed they dart away with astonishing velocity, but soon resume a similar station. The larvæ are among those with a flexible head ("*leech-like*," Bouché), usually broad behind, attenuated before, otherwise varying much in figure, as they do in their food and habitation. The

larva of one (*Microdon*) has been described as a Gastropod mollusk (*Scutelligera*, Spix)! The pupa is enclosed in the hardened skin of the larva ("coarctate").

Scopoli (A. D. 1763) first distinguished this group from the rest of the Linnæan *Muscæ*, by an essential character taken from the structure of the proboscis with the development of the maxillary lancets (Ent. Carn. p. 351. g. *Conops*); but having overlooked the slender tongue in *Rhingia rostrata*, he was led to constitute a distinct genus for this insect (ibid. 358), and he left a few species of the family still in the genus *Musca*. Fabricius (A. D. 1775) defined the contents more successfully (Syst. Ent. g. *Syrphus*), but retained the distinction of the genus *Rhingia*. Harris, in his 'Exposition of English Insects' (A. D. 1782), exhibited the distinctive characters of the wings of this family under three sections, which may be exemplified by the genera *Volucella*, *Eristalis*, and *Syrphus* respectively. Latreille (Précis, A. D. 1797) added the genus *Ceria*, and in 1802 gave the denomination to the family; in which fifteen genera were characterized, the year following, by Meigen (Illiger's Magazine, vol. ii.). In the 'Systema Antliatorum,' the latest work of Fabricius, bearing date 1805, the genera *Syrphus* and *Rhingia* of his previous arrangements are distributed under twelve genera. The disposition is faulty in many respects, and as he did not attend to the prior applications of the generic names, the book is an authority only as regards the species described in it. In 1809 Latreille gave a more detailed character of the family, which he divided into sections and fourteen genera, but still including in it the genus *Pipunculus* (Gen. Cr. et Ins. tom. iv.). Fallen, in his first arrangement of the family (A. D. 1810), included not only *Pipunculus*, but *Scenopinus* also, in the *Syrphici*, following Fabricius in the application of the generic names: in 1816 he described the Swedish species, and limited the family by the removal of *Scenopinus*. Meigen's first work on the species of European Diptera, published in 1804, was not continued so far as to the present family; but his arrangement in the third volume of the 'Systematische Beschreibung' (A. D. 1822), with additions in the later volumes, has not been superseded by any other. Macquart (Ins. Dipt. du Nord de France) and Zetterstedt (Diptera Scandinaviæ) have contributed much to the illustration of this family; and Loew (Entom. Zeitung) has subjected several of the genera to a thorough critical investigation, and has enriched them with many new species.

SYRPHIDÆ.

- *Third joint of the antennæ*
  - with a terminal style: *subapical areolet*
    - abruptly narrowed in the middle . . . . . 1. CERIA.
    - gradually widened from the base outwards . . . . . 2. CALLICERA.
  - with a dorsal arista: *subapical areolet*
    - bisected transversely . . . . . 3. MICRODON.
    - entire: *axillary lobe*
      - distinct: *subcostal and radial veins*
        - meeting before they reach the margin: *halteres*
          - covered by the alulæ . . . . . 5. ERISTALIS.
          - uncovered . . . . . 13. VOLUCELLA.
        - ending separately in the margin: *arista*
          - feathered . . . . . 14. SERICOMYIA.
          - naked or pubescent: *antennæ jointly*
            - as long as the breadth of the head: *arista*
              - near the middle of the third joint . . . 16. PSARUS.
              - near the base of the third joint . . . 15. CHRYSOTOXUM.
            - shorter than the breadth of the head: *transverse prebrachial vein placed*
              - at or beyond the middle of the discal areolet: *scutellum*
                - flat, with a sharp edge: *epistoma*
                - descending straight . . . . . 4. EUMERUS.
                - impressed . . . . . 10. XYLOTA.
                - keeled: *ridge under hind femora*
                - angular . . . . . 8. TROPIDIA.
                - curved . . . . . 9. SYRITTA.
                - somewhat convex, with undefined edge: *subapical areolet*
                - narrowed in the middle: *epistoma*
                - elongated and tuberculated . 6. HELOPHILUS.
                - short and even . . . . . 7. MERODON.
                - gradually widened from the base outwards: *thorax*
                - shaggy with soft hair . . . . . 12. CRIORHINA.
                - merely pubescent . . . . . 11. MILESIA.
                - with stiff bristles interspersed among the pubescence . . . . . 24. CHRYSOCLAMIS.
              - before the middle of the discal areolet: *epistoma*
                - drawn out into a horizontal cone, as long as the rest of the head 23. RHINGIA.
                - but little elongated horizontally,
                - descending straight . . . . . 19. PIPIZA.
                - protuberant towards the mouth: *antennæ*
                - close together at the base: lower transverse vein
                - undulated . . . . 17. PARAGUS.
                - straight . . . . . 18. PSILOTA.
                - separated at the base: *discal areolet*
                - diverging from the posterior margin: *scutellum*
                - somewhat convex; margin undefined 22. BRACHYOPA.
                - flat, with a sharp edge: *third joint of antennæ*
                - linear . . . . 20. ORTHONEURA.
                - oval or orbiculate 21. CHRYSOGASTER.
                - and subapical nearly equidistant from, and parallel to, the posterior margin: *abdomen*
                - with seven segments apparent . . . . 28. MELITHREPTUS.
                - with only five (or six) segments apparent: *front*
                - pitted or channelled . . . . 25. CHILOSIA.
                - even, convex: *sides of thorax*
                - immaculate . 26. SYRPHUS.
                - variegated with yellow . . 27. DOROS.
      - indistinct: *hind femora*
        - slender like the others . . . . . 29. BACCHA.
        - enlarged: *subapical areolet*
          - rounded at the tip behind . . . . 30. SPHEGINA.
          - truncated . . . . . 31. ASCIA.

Genus I. **CERIA.**

CERIA, Fb. e. s. iv. 277 (1792); Shr.; Mg.; Ll.; Fln.; St. F. et Srv.; Mq.; Ct.; Ztt. *Musca* p., L.; Pz. *Conops* p., Shr. *Syrphus* p., Pz.

Antennæ articulo quarto apicali. Alæ areola subapicali in medio abrupte angustata.

Head broader than the thorax, depressed in front, vertical; epistoma long, conical, with a scapula above the peristoma. Proboscis short, vertical. Labrum tapering near the tip which is edged, not so long as the labium. Lingua somewhat shorter than the labrum. Maxillæ subulate, curved, compressed, shorter than the palpi. Palpi biarticulate, cylindrical, membranous, compressed, dilated at the tips; first joint long; second rhomboidal, pubescent. Labium cylindrical. *Antennæ* 5-jointed, pubescent, longer than the head, *seated on a short elliptical petiole*, which is truncated in front; first joint cylindrical, a little thicker at the tip, longer than the second; *fourth apical*, very small; fifth stylate. Thorax quadrate, rounded behind; scutellum semicircular. Wings very finely pubescent, diverging; *subapical areolet abruptly narrowed in the middle*; alulæ very small. Halteres small, uncovered. Legs stout; tibiæ subclavate. *Male.* Eyes contiguous. Abdomen cylindrical. *Fem.* Eyes remote. Abdomen subfusiform.

1. **conopsoides,** L. 1790 (1761); Slb.; Shr. i. a.; Pz.; Ll.; Mg.; St. F. et Srv.; Mq.; Ct.! b. e. 186; Df.; Grn.; Ztt.—*clavicornis*, Fb.; Mg. kl.; Fln.; Dmr.—*vaginicornis*, Shr. f. b.—*conopseus*, Pz. Nigra flavo-varia, alis ad costam fuscis, femoribus basi flavis, tibiis flavis apice nigris. Long. 5½; alar. 9 lin.

Black. Head yellow along each side in front, and along the hind border; four yellow spots in a band behind the antennæ. Two yellow spots on each side of the thorax above and beneath; a yellow band across the scutellum. Wings brown along near half the breadth beneath the costa. Halteres tawny. Abdomen with a yellow spot on each side of the base, and with 3 yellow bands along the hind borders of the segments. Femora yellow towards the base; tibiæ yellow, with black tips.

Rare. In the British Museum. (E.)

Genus II. **CALLICERA.**

CALLICERA, Mg. kl.? (1804); Pz.; Ll.; St. F. et Srv.; Mg.; Ztt.; Rdn. *Bibio* p., Fb. *Musca* p., Gm. *Syrphus* p., Rsi.

Antennæ articulo quarto apicali. Alæ areola subapicali basi ad apicem latescente.

Body broad. Head a little broader than the thorax. Antennæ longer than the head, seated on a tubercle; first joint cylindrical; second clavate; third tapering from near the base to the tip, almost twice the length of the first and the second; *fourth* very short, *seated on the tip of the third*; fifth stylate. Thorax elliptical. *Wings with the subapical areolet gradually widened from the base outwards.* Abdomen obconical.

1. **ænea,** Fb. s. i. ii. 413. 4 (1781); Gm.; Mg. pl. 26. f. 20; Pz.; Ll.; Mq.; Ztt.; Rdn.—*anea,* Rsi.; Rdn. *Nigricans, abdomine æneo, genubus tibiis tarsisque ferrugineis, antennarum articulis primo et secundo subæquilongis.* Long. 5; alar. 11 lin.

Blackish. First and second joints of the antennæ of equal length. Abdomen æneous. Knees, tibiæ, and tarsi ferruginous.

Very rare; has been found near Petersfield, Hampshire. In Mr. Curtis's collection. (E.)

Genus III. **MICRODON.**

MICRODON, Mg.; Ill. mag. ii. 275 (1803); Mg.; Fln.; Ct.; Ztt. *Musca* p., L.; Dg.; Shr. i. a. *Stratiomys* p., Shr.; Pz. *Syrphus* p., Fb. e. s. *Mulio* p., Fb. s. a. *Aphritis,* Ll.; Lch.; St. F. et Srv.; Mq.

Antennæ articulo quarto dorsali. Alæ areola subapicali transverse bisecta.

Body short, broad, thick. Head short, obtuse, semicircular, as broad as the thorax, much compressed in front; epistoma very flat, convex? pilose; peristoma small, oval. Eyes parted. Proboscis nearly vertical, not longer than the head. Labrum short, robust, obtuse, narrow in front. Lingua acute, very slender, as long as the labrum. Palpi cylindrical, very small, hardly visible. Labium cylindrical, much dilated. Antennæ 5-jointed, porrect, contiguous, seated on a hardly perceptible elevation, somewhat longer than the head; first and second joints armed with fine spines; first long, cylindrical, slender at the base, almost as long as the two following; second and third compressed; second cyathiform; third acute, broad at the base; fourth very short, *seated very near the base of the third*; fifth setiform, as long as the third. Thorax nearly round, slightly quadrate; scutellum semicircular; hind border emarginate, armed with two little spines. Wings very finely pubescent, a little shorter than the border, incumbent and almost parallel in repose; *subapical areolet bisected transversely*; alulæ small. Halteres small, distinct. Abdomen obconical, broader and longer than the thorax. Legs rather stout, pubescent; tibiæ slightly curved. *Male.* Eyes more contiguous than in the female.

1. **mutabilis,** L. fn. 1807 (1761); Pz.; Fln.; Ztt.—*apiformis,* Mg.; Mq.; Ct.! b. e. 70.—*novus,* Shr. i. a.—*piger,* Shr. f. b.—*apiarius,* Fb.—*auro-pubescens,* Ll. Nigro-chalybea, antennis nigris, alis subcinereis, *abdomine aureo-tomentoso* apice ferrugineo, tibiis tarsisque ferrugineis. Long. 4–5½; alar. 7–10 lin.

Chalybeous-black, shining, clothed with pale hairs. Antennæ black. Scutellum ferruginous. Wings pale grey. Halteres luteous. *Abdomen covered with gilded down;* tip ferruginous. *Tibiæ and tarsi* ferruginous; tibiæ with black bands.

Rare. (E. I.)

2. **apiformis,** Dg. i. vi. 56. 18 (1783).—*mutabilis*? L.; Ztt.—*mutabilis,* Gm.; Fln.; Fb.; Mg.; Mq.—*plebeia,* Shr.—*conica,* Pz.—*micans*? Mg. Nigro-chalybea, antennis nigris, alis subcinereis, *abdomine cano-hirto,* apice ferrugineo, tibiis tarsisque ferrugineis, *metatarsis fuscis.* Long. 4–5; alar. 7–9 lin.

Chalybeous-black, shining, clothed with pale tawny hairs. Antennæ black. Scutellum ferruginous. Wings pale grey. Halteres luteous. *Abdomen covered with hoary down;* tip ferruginous. Tibiæ and tarsi ferruginous; tibiæ with black bands; metatarsi brown.

Rare. (E.)

Genus IV. **EUMERUS.**

EUMERUS, Mg. zw. iv. 202 (1822); St. F. et Srv.; Mq.; Ztt.; Lw.; Ct.; Bc. *Syrphus* p., Fb. e. s; Pz. *Eristalis* p., Fb. s. a. *Milesia* p., Ll. *Pipeza* p., Fln.

Epistoma recte descendens. Antennæ capitis latitudine conjunctim breviores, articulo quarto dorsali, sexto nudo vel pubescente. Scutellum depressum, margine acuto. Alæ areola subapicali integra, venis subcostali et radiali margine disjunctis, vena transversa præbrachiali ad vel ultra areolæ discalis medium locata, lobo axillari distincto.

Head semicircular, as broad as the thorax, somewhat depressed in front; face very hairy, slightly convex; *epistoma descending, straight,* not extending beyond the eyes, with no scapula; peristoma oval, tolerably broad, somewhat acute in front, inclined upwards. Proboscis short, thick. Labrum short, broad, truncated, notched and bilobed at the tip. Lingua lanceolate. Maxillæ short. Palpi linear, pubescent, much shorter than the maxillæ, their tips rounded and hairy. Labium short, thick, cylindrical. *Antennæ jointly shorter than the breadth of the head,* 6-jointed, approximate, porrect, nutant, diverging; first joint short; second cyathiform, much broader; third large, compressed, round or somewhat obliquely truncated in front, or somewhat pointed, with a fovea on the outside; fourth and fifth very short;

fourth *dorsal*, cyathiform, seated on the third just before the middle; fifth a little longer; sixth bare or pubescent, thick towards the base. Thorax convex, pubescent, almost quadrate, with two whitish stripes which do not extend beyond the middle; *scutellum flat*, semicircular, with a *sharp* finely granulated edge, which is beset with short bristles. Wings moderately long, finely pubescent, incumbent and parallel in repose; *subapical areolet entire; subcostal and radial veins ending separately in the margin; transverse præbrachial vein placed at or beyond the middle of the discal areolet; axillary lobe distinct.* Abdomen long, linear, pubescent, incurved at the tip; segments coarctate; first segment very narrow. Legs rather short; hind legs rather longer than the anterior; hind femora very thick, with a double row of slender spines on the apical half of the underside; hind tibiæ somewhat curved, subclavate, slightly thickened in the middle; hind metatarsi rather broad. *Male.* Eyes contiguous; facets large in front. Abdomen obtuse at the tip. *Fem.* Eyes remote. Abdomen acute at the tip.

The larvæ feed on bulbous roots.

1. **ornatus,** Mg. zw. iii. 205. 4 (1822); Mq.; Ztt.—*strigatus* p., Fln. Æneo-viridis, *antennis ferrugineis*, alis cinereis, abdomine utrinque lunulis tribus canis, pedibus nigris, *tarsis fulvis.* Long. 4; alar. 7 lin.

Cupreous. Eyes hairy. *Antennæ dark ferruginous.* Thorax æneous-green. Wings grey; stigma dark brown. Halteres luteous. Abdomen black, cupreous on each side, with 3 interrupted arched hoary bands, lurid beneath. Legs black; *knees and tarsi tawny*; tarsi brown towards the base.

Rare. In Mr. Stephens's collection. (E.)

2. **ruficornis,** Mg. zw. iii. 206. 5 (1822); Ztt.; Ct.; Lw. Chalybeus, *antennis rufis, thoracis disco æneo cano-bivittato*, alis subcinereis, abdomine utrinque lunulis tribus canis, pedibus nigris, *tibiis basi tarsisque subtus rufis.* Long. 3¼; alar. 6½ lin.

Chalybeous. *Antennæ red. Disc of the thorax æneous, with 2 hoary stripes.* Wings slightly grey; stigma brown. Halteres yellow. Abdomen black, adorned on each side with 3 slightly curved hoary bands. Legs black; *tibiæ towards the base and tarsi beneath red.*

Rare. In the British Museum. (E.)

3. **strigatus,** Fln. d. s. syrph. 61. 8 (1816); Mg.; Mq.; Ztt.—*annulatus*, Pz. Chalybeus, *antennis nigris, thoracis disco æneo cano-bivittato*, alis subcinereis, abdomine utrinque lunulis tribus canis, tibiis basi ferrugineis, tarsis piceis. Long. 4; alar. 7 lin.

Chalybeous. *Antennæ black. Disc of the thorax æneous, with 2 hoary stripes.* Wings slightly grey; stigma tawny. Halteres yellow. Abdomen adorned on each side with 3 oblique slightly curved hoary

bands. Tibiæ towards the base and knees ferruginous; tarsi piceous; hind femora armed beneath with about 12 minute teeth.

Generally distributed. (E.)

4. **Selene,** Mg. zw. iii. 210. 12 (1822). *Æneus, antennis nigris, thoracis disco cano-bivittato, alis cinereis, abdomine* utrinque lunulis tribus canis *basi ferrugineo, pedibus nigris.* Long. 2½; alar. 4 lin.

Æneous. *Antennæ black.* Thorax with 2 hairy stripes. Wings grey. Halteres luteous. Abdomen with 3 arched interrupted hoary bands, *ferruginous towards the base. Legs black.*

Rare. In Mr. Stephens's collection. (E.)

Genus V. **ERISTALIS.**

Eristalis, Ll. d. h. n. (1804); Fb.; Mg.; St. F. et Srv.; Mq.; Lw.; Ct. *Musca* p., L.; Dg.; Gm. *Conops* p., Spl. *Volucella* p., Shr. *Syrphus* p., Fb. e. s.; Pz.; Rsi. *Syrphus*, Fln.; Ztt. *Elophilus* p., Ll. *Milesia* p., Ll.

Antennæ articulo quarto dorsali. Alæ areola subapicali integra, lobo axillari distincto, venis subcostali et radiali ante marginem conjunctis. Halteres alulis obtecti.

Body broad. Head semicircular; epistoma somewhat depressed above, with a distinct scapula near the peristoma; peristoma long, narrow in front, inclined upwards. Labrum long, narrower towards the tip, which is notched. Lingua acute, nearly as long as the labrum. Maxillæ subulate, curved, much shorter than the lingua. Palpi cylindrical, curved upwards, longer than the maxillæ; the proportionate length of the maxillæ and palpi varies much in the different species. Labium long, large, semicylindrical. Antennæ approximate, seated on a tubercle in front, 5-jointed, porrect, nutant; first and second joints small; third patelliform; fourth very short, *seated on the base of the third*; fifth setiform. Thorax oval, hairy; scutellum semicircular. Wings lanceolate, very shining, diverging; *subapical areolet entire; axillary lobe distinct; subcostal and radial veins meeting before they reach the margin*; alulæ large, double, fringed. *Halteres covered by the alulæ.* Abdomen obconical. Hind legs longer than the anterior; hind tibiæ curved, compressed towards the tips.

These flies are of large size, and some have much resemblance to bees. The larvæ live in hollow trees, in mud, in stagnant water, in gutters, and in sewers; they vary in form according to the species, and are furnished with long tails for the purpose of breathing. In the larva of *E. tenax* only the two first internodes of the spinal marrow are double, the rest being all single. The fly has three ganglions in the thorax, and two in the abdomen.

The optic nerve is very large, cylindrical, and of a diameter equal to the length of the brain, upon the side of which it is supported; it terminates in a very large bulb corresponding to the eye. The species may be grouped thus:—

a. Marginal areolet not reaching the external border of the wing.
  b. Mediastinal areolet much longer than the marginal areolet. Species 1–3.
  b b. Mediastinal and marginal areolets nearly equally long.
    c. Antennæ with the fifth joint bare. Species 4, 5.
    c c. Antennæ with the fifth joint plumose.
      d. Body very hairy. Abdomen almost globose. Species 6.
      d d. Body merely pubescent. Abdomen conical. Sp. 7–12.
a a. Marginal areolet extending to the external border of the wing. Species 13.

1. **tenax,** L. s. n. ii. 984. 32 (1767); Rm.; Shl.; Fb.; Shr.; Gm.; Mg.; Pz.; Ll.; Fln.; Mq.; Lw.; Ztt.—*porcina*, Dg.—*arbustorum*, L.; Shr.—*apiformis*, Gf.—*vulgaris*, Spl.—*fuscus*, Spl.—*campestris*, Mg.; Mq.—*hortorum*, Mg. *Piceus, scutello fulvo, abdominis segmentorum marginibus posticis maculisque duabus lateralibus basi fulvis.* Long. 7; alar. 14 lin.

Piceous, clothed with tawny hairs. Head clothed with black hairs on the crown and with whitish hairs in front, bare and shining above the antennæ and on the scapula above the peristoma. Antennæ black. *Scutellum dull tawny.* Wings colourless, slightly tawny along the costa. Halteres tawny with piceous knobs. *Abdomen with a large transverse triangular more or less distinct tawny spot on each side near the base; hind borders of the segments tawny.* Var. β. Wings more or less clouded with brown beneath the middle of the fore border. Var. γ. Abdomen with a narrow interrupted tawny stripe on the second segment, spots near the base very large and distinct.

Generally distributed. (E. S. I.)

2. **fumipennis,** St. ill. pl. 47. f. 3. *Niger, antennis scutelloque ferrugineis, alis nigro-fuscis apice margineque postico cinereis, abdomine basi ferrugineo-bimaculato segmentorum marginibus postico luteis, femoribus posticis crassis, tibiis posticis latis arcuatis.* Long. 6; alar. 12 lin.

Black, mostly clothed with ferruginous hairs. Head testaceous in front, with a ferruginous scapula; vertex clothed with black hairs. *Antennæ and scutellum ferruginous. Wings dark brown, dark grey at the tips and along the hind border. Abdomen with a large ferruginous spot on each side of the base; hind borders of the segments luteous.* Legs black, clothed with black hairs; *hind femora thick*; tibiæ yellow towards the base; anterior tibiæ brown; *hind tibiæ broad, much curved*; tarsi ferruginous.

Very rare. In Mr. Stephens's collection. (E.)

3. **cryptarum,** Fb. e. s. iv. 285. 26 (1792); Fln.; Mg.; Mq.; Ztt.—*nubilipennis,* Ct.! b. e. 432.—*arbustorum,* Pz.! fn. xiv. 22? *Piceus, capite nigro, antennis scutelloque ferrugineis, alis basi et ad costam fuscis, abdomine ferrugineo-bimaculato segmentorum marginibus posticis flavis, pedibus ferrugineis, femoribus basi nigris.* Long. 5; alar. 10 lin.

Piceous. Head black, shining. *Antennæ bright ferruginous.* Thorax clothed with ferruginous hairs; *scutellum ferruginous. Wings* colourless, *clouded with dark brown at the base and along three-fourths of the costa.* Halteres tawny. *Abdomen with a very large triangular ferruginous spot on each side of the second segment; hind borders of the segments yellow. Legs ferruginous*; anterior femora black, ferruginous towards the tips; hind femora black at the base; tips of the tarsi piceous.

Rare. In the collection of the Entomological Club. (E. S. I.)

4. **æneus,** Spl. e. c. 967 (1763); Fb.; Pz.! fn. lxxx. 15; Ll.; Fln.; Mg.; Mq.; Lw.; Ztt.—*punctatus,* Mlr. *Æneus, antennis ferrugineis,* pedibus nigris, *tibiis basi flavis; Fœm.* thorace cano-quinquevittato. Long. 5½; alar. 10 lin.

Æneous. Head covered in front with white down. *Antennæ ferruginous.* Wings colourless, slightly tinged with brown from the base along two-thirds of the costa. Halteres tawny. Legs black; *tibiæ at the base and knees yellow. Fem.* Thorax with five hoary stripes. Var. β. Middle tarsi yellow at the base.

Not rare. (E. I.)

5. **sepulcralis,** L. s. n. ii. 991. 73 (1767); Fb.; Shr.; Gm.; Mg.; Mq.; Lw.; Ztt.—*tristis,* Fb.; Pz.! fn. lxxxii. 16; Ll.; Fln. *Niger, antennis articulo tertio subtus ferrugineo; Mas.* thorace antico cinereo-bivittato, abdominis lateribus æneo-maculatis; *Fœm.* thorace cano-quinquevittato, abdomine æneo. Long. 4–5; alar. 8–10 lin.

Black. Head clothed in front with white down. *Third joint of the antennæ ferruginous beneath.* Wings colourless. Halteres tawny. Anterior knees ferruginous. *Male.* Eyes parted above. Thorax with two cinereous stripes in front. Abdomen with large triangular æneous spots along each side. *Fem.* Thorax with five hoary stripes. Abdomen æneous.

Not rare. (E. I.)

6. **intricarius,** L. s. n. ii. 985. 33 (1767); Dg.; Fb.; Shr.; Pz.; Ros.; Fln.; Mg.; Mq.; Ztt.; Lw.—*bombyliformis,* Fb.; Pz.! fn. lix. 11.—*aureus,* Pz. *Piceus, ferrugineo- vel nigro-hirtus, scutello fulvo, tibiis basi albis; Mas.* abdomine concolore segmentis secundo et tertio lateribus macula fulva; *Fœm.* abdomine nigro albo-hirsuto, alis in medio macula costali fusca notatis. Long. 5½–6; alar. 12–13 lin.

Piceous. Head clothed with tawny down; a black scapula above the peristoma. Antennæ piceous; fourth joint tawny. *Thorax thickly clothed with ferruginous hairs; scutellum tawny.* Wings colourless,

brownish at the base; alulæ grey. Halteres piceous. Legs black; *tibiæ white towards the base*; tarsi piceous. *Male.* Abdomen ferruginous, clothed with tawny hairs; disc black towards the base. *Fem.* Wings slightly clouded with brown beneath the middle of the costa. Abdomen black, clothed with black hairs; tip clothed with whitish hairs. Var. β, *mas. Thorax clothed with blackish-brown hairs.* Abdomen black, with two large tawny spots on each side. Var. γ, *fœm.* Tip of the abdomen clothed with tawny hairs.

Generally distributed. (E. S. I.)

7. **similis,** Fln. d. s. syrph. 25. 16 (1816); Mg.; Mq.; Lw.; Ztt. —*pertinax*? Spl. *Piceus, scutello ferrugineo, abdomine nigro segmentorum marginibus maculisque duabus lateralibus basi fulvis,* pedibus nigris, *tibiis basi tarsisque anterioribus fulvis.* Long. 6–7; alar. 12–14 lin.

Piceous, clothed with tawny hairs. Head clothed on the crown and above the antennæ with black hairs. Antennæ black. Disc of the thorax clothed with ferruginous hairs; *scutellum ferruginous.* Wings colourless, slightly clouded with brown beneath the middle of the costa. Halteres tawny. *Abdomen black, with a very large triangular tawny spot on each side beneath the fore border; hind borders of the segments tawny.* Legs black; tibiæ towards the base, *knees and anterior tarsi tawny.* Var. β. Wings quite colourless. Var. γ. Wings much clouded with brown.

Generally distributed. (E. S. I.)

8. **nemorum,** L. s. n. ii. 984. 30 (1767); Rm.; Gf.; Fb.; Shr.; Ros.; Gm.; Ll.; Mg.; Mq.; Lw.; Ztt.—*arbustorum* p., Fln. *Piceus, fulvo-hirtus, scutello ferrugineo, abdomine nigro,* segmentorum marginibus posticis maculisque duabus lateralibus basi fulvis, pedibus nigris, tibiis basi tarsisque fulvis, tarsis posticis piceis. Long. 5–6; alar. 10–12 lin.

Piceous, clothed with tawny hairs. Head covered with whitish down; a black scapula above the peristoma; crown clothed with black hairs. Antennæ black; fourth joint tawny. *Scutellum ferruginous.* Wings colourless, very slightly clouded with brown beneath the middle of the costa. Halteres tawny. *Abdomen black,* with a large tawny triangular spot on each side near the base; hind borders of the segments tawny. Legs black; tibiæ towards the base and *anterior tarsi tawny; hind tarsi piceous,* ferruginous beneath. Var. β. Wings quite colourless. Var. γ. Anterior tibiæ tawny.

Generally distributed. (E. S. I.)

9. **arbustorum,** s. i. ii. 424. 15 (1775); Gm.; Shr.; Rsi.; Pz.; Ll.; Fln.; Mg.; Mq.; Lw.; Ztt.—*horticola* var., Dg. fig. Sch. i. e. lxxxi. 1. *Piceus, fulvo-hirtus, thorace cinereo-subvittato, scutello ferrugineo,* segmentorum marginibus posticis maculisque duabus lateralibus fulvis, pedibus nigris, tarsis intermediis tibiisque basi flavis. Long 5–5½; alar. 11–12 lin.

Piceous, clothed with tawny hairs. Head covered in front with pale yellow down, clothed on the crown with black hairs. Antennæ black. *Thorax with indistinct hoary stripes; scutellum ferruginous.* Wings colourless. Halteres tawny. Abdomen with a large tawny more or less triangular spot occupying the whole of each side of the second segment; hind borders of the segments tawny. Legs black; tibiæ and middle tarsi yellow towards the base. Var. β. Abdominal spots occupying only part of each side of the second segment. Var. γ. Abdominal spots occupying the base of each side of the third segment. Var. δ. Wings very slightly clouded with brown beneath the middle of the costa.

Generally distributed. (E. S. I.)

10. **horticola,** Dg. i. vi. 60. 5 (1783); Fb.; Mg.; Fln.; Mq.; Lw.—*flavicinctus,* Fln.; Ztt. Piceus, fulvo-hirtus, *abdomine nigro basi et segmentorum marginibus posticis luteis,* pedibus nigris, *femoribus posticis tarsisque intermediis basi luteis, tibiis luteis apice nigris.* Long. 5½–6; alar. 12–13 lin.

Piceous, clothed with tawny hairs. Head covered in front with yellow down, piceous above the antennæ, with a black shining scapula above the peristoma. Antennæ piceous; fourth joint tawny. Wings colourless, slightly clouded with brown beneath the middle of the costa. Halteres tawny. *Abdomen black, with a very large, luteous, irregularly triangular spot occupying the whole of the first segment and the base of the second on each side; hind borders of the segments luteous.* Legs black; hind femora luteous towards the base; tibiæ luteous with black tips; middle tarsi luteous towards the base; fore tarsi ferruginous towards the base.

Generally distributed. (E. S.)

11. **rupium,** Fb. s. a. 241. 38 (1805); Mg.—*piceus,* Fln.; Ztt.—*cryptarum,* Pz.! fn. xc. 18.—*flavicinctus* var. β., Fln. *Niger, ferrugineo-hirtus, scutello ferrugineo, tarsis posterioribus tibiisque flavis apice nigris.* Long. 5½; alar. 10 lin.

Black. Vertex clothed with black hairs; front clothed with ferruginous hairs; epistoma, excepting the scapula, covered with whitish down, clothed with whitish hairs. Front joint of the antennæ ferruginous, clothed with long hairs. *Thorax clothed with ferruginous hairs; scutellum ferruginous.* Wings colourless, brownish at the base, and with a large rhomboidal dark brown spot beneath the stigma, which is black. *Abdomen clothed with ferruginous hairs at the base, and along each side with short whitish hairs. Tibiæ and posterior tarsi yellow, black towards the tips;* fore tarsi piceous towards the base.

Rare. In Mr. Stephens's collection. (E. S.)

12. **fossarum,** Mgrle.; Mg. zw. iii. 393. 10 (1822); Mq. *Piceus, fulvo-hirtus, scutello ferrugineo, abdominis segmentis æneo-fasciatis, pedibus nigris, tarsis intermediis tibiisque basi flavis.* Long. 5; alar. 11.

Piceous, clothed with dark tawny hairs. Head covered in front with whitish down; a black shining scapula above the peristoma. Antennæ black. *Scutellum ferruginous.* Wings colourless, slightly tinged with brown along the fore border from the base to the middle. Halteres tawny. *Abdomen black; each segment with an æneous band*; hind borders tawny. *Legs black; tibiæ and middle tarsi yellow towards the base.* Var. β. Hind borders of the abdominal segments hoary. Var. γ. Second abdominal segment with a triangular tawny spot on each side.

Generally distributed. (E.)

13. **floreus,** L. s. n. ii. 984. 29 (1763); Dg.; Fb.; Shr.; Gm.; Schf.; Pz.; Rsi.; Ll.; Fln.; Mg.; Mq.; Ztt.—*atropos,* Shr.; Gm. *Niger, thorace cano-trivittato, scutello ferrugineo, abdominis segmentorum marginibus posticis flavis lateribus flavo-trimaculatis, tibiis flavis apice nigris.* Long. 6; alar. 12 lin.

Black, clothed with yellow hairs. Head covered with yellow down, which is interrupted by a black shining stripe. *Thorax with three hoary bands; scutellum ferruginous.* Wings slightly grey, tinged with pale brown along the costa for more than half the length from the base. Halteres yellow. *Abdomen with three transverse yellow spots on each side; first pair very large; hind borders of the segments yellow.* Knees and tibiæ yellow, the latter black towards the tips.

Generally distributed. (E. I.)

Genus VI. **HELOPHILUS.**

HELOPHILUS, Mg. zw. iii. 368 (1822); St. F. et. Srv.; Mq.; Ztt.; Ct.; Lw. *Musca* p., L.; Dg.; Shr. *Syrphus* p., Fb.; Pz.; Fln. *Eristalis* p., Fb. *Elophilus* p., Mg. kl.; Ll.

Epistoma elongatum, tuberculatum. Antennæ capite transverso conjunctim breviores, articulo quarto dorsali, quinto nudo vel pubescente. Scutellum sat convexum, margine non bene determinato. Alæ areola subapicali integra ad medium contracta, lobo axillari distincto, venis subcostali et radiali ad marginem disjunctis, vena transversa præbrachiali ultra areolæ discalis medium locata.

Body broad. Head semicircular; *epistoma* somewhat compressed, elongated and tuberculated, slightly rostrate in some species; peristoma oblong. Eyes bare, parted. Labrum short, rather long, more slender towards the tip, which has five narrow lobes. Lingua lanceolate, acute, with a ridge along the middle, as long as the labrum. Maxillæ subulate, curved upwards, shorter than the lingua, as long as the palpi. Palpi cylindrical, curved upwards, obtuse, beset with short bristles towards the tips. Labium large. *Antennæ* 5-jointed, porrect, nutant, seated on a little tubercle in front, jointly shorter than the breadth of the head; first and second joints small; second cyathiform,

much broader than the first; third flat, almost circular; fourth very minute, *seated near the base of the third; fifth* setiform, *bare or pubescent.* Thorax subquadrate, pubescent. *Scutellum somewhat convex, with an undefined edge,* semicircular. Wings lanceolate, very finely pubescent, diverging; *subapical areolet entire, narrowed in the middle; axillary lobe distinct, subcostal and radial veins ending separately in the margin; transverse præbrachial vein placed beyond the middle of the discal areolet*; alulæ large, double. Halteres covered. Abdomen elliptical, obconical, or linear. Hind femora long, fusiform, thicker than the anterior, beset with spines beneath towards the tips; hind tibiæ curved. *Male.* Eyes more approximate than in the female.

The larvæ of some species of this and of the preceding genus are aquatic, and their structure and habits are described in the following extract:—"The larva of *Helophilus pendulus* has fourteen unguiferous prolegs or tubercula, which are perhaps connected with the respiration; they are affixed by pairs to the ventral segments, the twelve posterior ones of which are subconical, and truncate at the apex, which is surrounded with two circles of very minute claws, those of the inner being much more numerous and shorter than those of the exterior circle; while the anterior pair terminate in a flat expansion, and in shape almost exactly resemble those of a mole. When about to assume the pupa-state, it leaves the water and betakes itself to the shore, and resides in the earth. The respiratory organ is a continuation of the tail, and is composed of two tubes, the inner one, like the tube of a telescope, being retractile within the other. The extremity, which is very slender, and through which the air finds admission by a pair of spiracles, terminates in five diverging hairs or rays, which probably maintain it in equilibrium at its station at the surface. As these larvæ seek their food amongst the mud at the bottom of shallow pools, in which they are constantly employed, they require an apparatus capable of being lengthened or shortened, to suit the depth of the water, that they may maintain their necessary communication with the atmosphere; and therefore, both these tubes are extremely elastic, consisting of annular fibres, so as to admit their being stretched to near twelve times the length of the animal. The mechanism by which the terminal piece is pushed forth or retracted, consists of two large parallel tracheæ; the direction of these is from the head of the grub to the tail, and they occupy a considerable portion of its interior: near the origin of the tail, where they are very ample, they suddenly grow very small, so as to form a pair of very slender tubes, but so long, that, in order to find room in a very contracted space, they form nume-

rous zigzag folds attached to the terminal tube; when this issues from the outer tube, they consequently begin to unfold, and when it is entirely disengaged, they are become quite straight and parallel to each other. It is supposed that when the animal has occasion to push forth its respiratory apparatus, it injects into these vessels part of the air contained in the body of the tracheæ, which would cause them to unfold and push forth the tube. When this insect assumes the pupa, instead of its anal respiratory organ it has four respiratory horns in the trunk near the head." The species may be thus divided:—

a. Abdomen oval.
  b. Abdomen semitransparent. Antennæ black. Species 1–3.
  b b. Abdomen opake. Antennæ luteous. Species 4.
a a. Abdomen linear. Species 5–7.

1. **pendulus,** L. s. n. ii. 784. 28 (1767); Rm.; Schll.; Schff.; Dg.; Fb.; Shr.; Gm.; Gf.; Pz.; Mg.; Ll.; Fln.; Mq.; Ztt.; Lw.—*similis*, Ct. Niger, *capite flavo nigro-vittato, abdomine chalybeo ferrugineoque fasciato lateribus fulvo-maculato.* Long. 4–6; alar. 8–12 lin.

Black. *Head* in front yellow *with a black stripe.* Fourth joint of the antennæ luteous. Thorax with four yellow stripes; scutellum tawny. Wings slightly grey. Halteres yellow. *Abdomen with chalybeous bands along the ferruginous hind borders of the segments, and with two large tawny angular spots on each side near the base; first pair yellow in front, larger than the second, which have two yellow dots between them, and a yellow interrupted band behind them.* Femora tawny towards the tips; tibiæ tawny; tips of the fore tibiæ and of the hind tibiæ black.

Generally distributed. (E. S. I.)

2. **hybridus,** Lw. e. z. vii. 141. 5 (1846). Niger, *capite flavo luteo-vittato, abdomine luteo nigro-vittato.* Long. 6; alar. 11 lin.

Black. *Head* in front yellow, *with a black stripe.* Fourth joint of the antennæ luteous. Thorax with four yellow stripes; scutellum ferruginous. Wings colourless. Halteres yellow. *Abdomen luteous, with a black dorsal stripe, which is widened at the base and towards the tip, where there is a dingy yellow band, whose hind border is deeply indented.* Hind femora with an indistinct tawny band on each tip; anterior femora luteous towards the tips; hind tibiæ luteous towards the base; anterior tibiæ luteous; tips of fore femora black; middle tarsi tawny towards the base.

Rare. In the collection of the Entomological Club. (E.)

3. **trivittatus,** Fb. s. a. 235. 15 (1805); Mg.; Ztt.; Lw.—*pendulus*, Rsi. *Niger, capite flavo luteo-vittato.* Long. 7–8; alar. 12–14 lin.

Black. *Head* in front yellow, *with a luteous stripe.* Fourth joint of the antennæ luteous. Thorax with four yellow stripes; scutellum ferruginous. Wings colourless. Halteres yellow. Abdomen with a black stripe which is widened at the base and along the hind border of each segment, and occupies the whole of the tip, where there is an undulating hoary band. Hind femora with an indistinct tawny band on each tip; anterior femora luteous towards the tips; hind tibiæ luteous towards the base; anterior tibiæ luteous; anterior tarsi ferruginous. Var. β. Fore tarsi tawny. Var. γ. Anterior tarsi tawny.

Not common. (E.)

4. **versicolor,** Fb. e. s. iv. 283. 19 (1792); Gm.; Lw. *Antennis luteis, facie sub antennis valde excavata, fronte fœminæ tota nigro-pilosa, femoribus posticis in utroque sexu muticis.* Long. 4½–5; alar. 9–10 lin.

Piceous. Head yellow in front; *face much excavated. Antennæ luteous.* Thorax with four tawny stripes, thickly clothed with tawny hairs; scutellum ferruginous. Wings slightly grey. Halteres yellow. Abdomen black, with two large angular luteous spots on each side towards the base, and with a luteous band on the hind border of each segment; tip buff. Legs luteous; *hind femora unarmed,* black with luteous tips; hind knees black; anterior femora black at the base; hind tarsi piceous. *Fem. Front clothed with black hairs.* Var. β. Bands of the abdomen interrupted towards the tip and forming black spots on each side.

Rare. In the collection of the Entomological Club. (E.)

5. **lineatus,** Fb. e. s. iv. 375. 2 (1792); Fln.; Mg.! zw. pl. 32. f. 7; Mq.; Ztt.; Lw.—*muscaria,* Fb.; Pz. *Facie longissime producta conica apice acuta, antennarum articulis primo et secundo nigro-fuscis.* Long. 4–4½; alar. 8–9 lin.

Black. Head yellow; vertex black; epistoma *very much produced,* conical, *acute,* black on each side. Antennæ ferruginous; *first and second joints piceous.* Thorax with four slender luteous stripes; scutellum tawny, dingy towards the base. Wings grey. Halteres yellow. Abdomen with sometimes indistinct whitish transverse dorsal spots on the hind borders of the segments. Legs luteous; femora, tibiæ, and hind knees with black bands; a black dot on the inner side of each of the hind femora; hind tarsi piceous. *Male.* Abdomen with three interrupted slightly curved luteous bands, which are much dilated on each side; tip pale tawny. *Fem.* Abdomen with three interrupted curved whitish bands; tip whitish.

Generally distributed. (E. I.)

6. **lunulatus,** Mg.! zw. iii. 370. 2. pl. 32. f. 9 (1822); Mq.; Lw.; Ztt. *Facie producta subconica apice obtusa, thoracis vitta intermedia nigra indivisa.* Long. 5; alar. 9 lin.

Black. Head yellow; vertex tawny; epistoma *produced, obtuse,* black on each side. Antennæ ferruginous, *luteous at the base.* Thorax

with four luteous stripes; scutellum tawny, dingy towards the base. Wings slightly grey. Halteres yellow. Abdomen with three curved interrupted yellow bands; hind borders of the segments glaucous; tip yellow. Legs luteous; hind legs darker than the anterior; hind femora striped with black; hind tibiæ piceous at the base; hind tarsi piceous or ferruginous.

Not common. (E.)

7. **transfugus,** L. f. s. 1818 (1761); Gm.; Mg. ! zw. pl. 32. f. 8; Mq.; Lw.; Ztt.—*lineatus* p., Fln.—*Ruddii*, Ct. Facie producta subconica apice obtusa, *thoracis vitta intermedia nigra linea pallida divisa.* Long. 4½; alar. 8 lin.

Brown. Head yellow; vertex tawny, piceous about the ocelli; epistoma *produced*, obtuse, black on each side. Antennæ ferruginous; first joint piceous; second dark ferruginous. Thorax with four slender luteous stripes; scutellum dingy tawny. Wings pale grey. Halteres whitish. Abdomen black, tawny beneath, adorned on each side above with three transverse curved pale yellow marks; tip pale yellow. Legs luteous; femora striped with black; hind femora spotted with black on the inner side; tibiæ with black bands; hind tarsi piceous.

Not common. (E.)

Genus VII. **MERODON.**

MERODON, Fb. s. a. 71 (1805); Ll.; Mg.; St. F. et Srv.; Mq.; Ct.; Rdn. *Syrphus* p., Fb. s. i.; Rsi.; Pz. *Musca* p., Gm. *Milesia* p., Ll.; Fb.

Epistoma breve, læve. Antennæ capite transverso conjunctim breviores, articulo quarto dorsali, quinto nudo vel pubescente. Scutellum sat convexum, margine non bene determinato. Alæ areola subapicali integra ad medium contracta, lobo axillari distincto, venis subcostali et radiali ad marginem disjunctis, vena transversa præbrachiali ultra areolæ discalis medium inserta.

Body broad, hairy. Head short, semicircular; *epistoma short, even, without scapulæ*, very hairy; peristoma oval, somewhat straitened in front. Eyes hairy. Labrum narrower towards the tip, which is notched on both sides. Lingua subulate, acute, nearly as long as the labrum. Maxillæ subulate, bare, longer than the palpi. Palpi short, somewhat clavate, beset with long bristles. Labium cylindrical. *Antennæ* six-jointed, porrect, nutant, approximate, seated on a tubercle, rather low on the front, *jointly shorter than the breadth of the head*; second joint a little shorter than the first; third conical, compressed, much longer than the second; fourth and fifth very short; *fourth seated on the base of the third*; sixth setiform, stout, *bare.* Thorax almost ellip-

tical; *scutellum* semicircular, *somewhat convex, with an undefined edge.* Wings lanceolate, diverging, finely pubescent; *subapical areolet entire, narrowed in the middle; axillary lobe distinct; subcostal and radial veins ending separately in the margin; transverse præbrachial vein placed beyond the middle of the discal areolet.* Alulæ large, double. Halteres covered. Abdomen obconical. Legs stout; hind femora thick, armed beneath with a large tooth; hind tibiæ curved. *Male.* Eyes united. Abdomen almost cylindrical. *Fem.* Eyes parted. Abdomen nearly oval.

The larvæ feed on the bulbs of the *Narcissus.*

1. **clavipes,** Fb. s. i. ii. 427. 29 (1781); Ll.; Mg.; Mq.; Ct.! b. e. 98.—*curvipes,* Gm.—*gravipes,* Rsi. Niger, alis subcinereis; *Mas.* thorace fulvo-hirto nigro-fasciato, abdomine aureo-hirto; *Fœm.* thorace rufo-hirto, abdomine basi incisurisque aureo-hirtis. Long. 8; alar. 12 lin.

Black. Wings pale grey. *Male.* Thorax clothed with tawny hairs with the exception of a broad black band. Abdomen clothed with gilded hairs. *Fem.* Thorax clothed with reddish hairs; abdomen with gilded hairs at the base and at the sutures.

Very rare; has been found in Northamptonshire. In the British Museum, and in Mr. Desvignes' collection. (E.)

Genus VIII. **TROPIDIA.**

TROPIDIA, Mg. zw. iii. 347. 2 (1822); St. F. et Srv.; Mg.; Lw.; Ztt.; Ct.; Rdn. *Eristalis* p., Fln.

Epistoma carinatum. Antennæ capitis latitudine conjunctim breviores; articulus quintus nudus. Scutellum depressum, acutum. Areola subapicalis integra; lobus axillaris distinctus; venæ subcostalis et radialis ad marginem disjunctæ; vena transversa præbrachialis trans medium areolæ discalis inserta. Femora postica acie angulata armata.

Body rather broad, convex. Head semicircular; *epistoma keeled.* Labrum long, emarginate at the tip. Lingua slender, acute, as long as the labrum. Maxillæ sublanceolate, nearly as long as the lingua. Palpi slender, pilose, shorter than the maxillæ. Labium rather large. Antennæ 6-jointed, approximate, inserted in a small cavity at the upper part of a protuberance in the middle of the face, *jointly shorter than the breadth of the head*; first joint short, cylindrical; second stouter, pilose, cyathiform ?, oblique at the tip; third patelliform, truncate at the tip; fourth and fifth extremely short; *fourth seated on the third* a little before the middle; sixth setiform, *bare,* very long. Thorax subquadrate, slightly rounded; *scutellum* semicircular, *flat, with a sharp edge.* Wings finely pubescent, incumbent, parallel, somewhat deflexed; *subapical areolet entire; axillary lobe distinct; subcostal and radial veins ending sepa-*

rately in the margin; transverse præbrachial vein placed beyond the middle of the discal areolet. Hind femora thick, compressed at the tips, *armed beneath with an annular ridge*; hind tibiæ stout, curved. *Male.* Eyes contiguous. Abdomen somewhat obclavate, furnished at the tip beneath with two short appendages, and with two fascicles of curved hairs. *Fem.* Eyes approximate. Abdomen nearly cylindrical.

1. **milesiformis,** Fln. syrph. lii. 5 (1816); Mg.; Mq.; Lw.; Ztt.—*rufomaculata,* Ct.! b. e. 401. Nigra, antennis piceis articulo secundo ferrugineo, alis subcinereis, abdomine luteo basi apice vittaque dorsali nigris, pedibus fulvis, tibiis apice femoribusque anterioribus pedibusque posticis piceis. Long. 3½–4; alar. 7–8 lin.

Black. Head yellow about the peristoma. Antennæ piceous; second joint ferruginous. Wings slightly grey. Halteres yellow. Abdomen luteous; base, tip, and dorsal stripe black. Legs tawny; hind legs piceous; anterior femora piceous, with tawny tips; anterior tibiæ piceous towards the tips.

Rare. (E.)

Genus IX. **SYRITTA.**

SYRITTA, St. F. et Srv. enc. x. 808. (1825); Mq.; Mg. zw. vii.; Ztt.; Rdn. *Musca* p., L.; Dg.; Shr.; Gf.; Gm. *Conops* p., Spl. *Syrphus* p., Fb.; Pz. *Milesia* p., Fb.; Ll.; Fln. *Xylota* p., Mg. *Coprina,* Ztt. i. l.

Epistoma carinatum. Antennæ capitis latitudine conjunctim breviores; articulus quartus dorsalis, quintus nudus. Scutellum depressum, acutum. Areola subapicalis integra; lobus axillaris distinctus; venæ subcostalis et radialis ad marginem disjunctæ; vena transversa præbrachialis ad vel trans medium areolæ discalis locata. Femora postica acie arcuata armata.

Body rather narrow, convex. Head semicircular; *epistoma keeled.* Maxillæ much longer than the palpi. Palpi almost clavate, not half the length of the labrum, somewhat bristly towards the tips. *Antennæ jointly shorter than the breadth of the head; fourth seated on the third,* a little before the middle; sixth setiform, bare, long. Thorax subquadrate, slightly rounded; scutellum semicircular, *flat, with a sharp edge.* Wings narrow, incumbent and parallel in repose; *subapical areolet entire; axillary lobe distinct; subcostal and radial veins ending separately in the margin; transverse præbrachial vein placed at or beyond the middle of the discal areolet.* Abdomen linear, cylindrical, narrower than the thorax. *Hind femora* thick, *armed beneath with a curved ridge;* hind tibiæ stout, curved.

1. **pipiens,** L. f. s. 1822 (1761); Dg.; Fb.; Spl.; Shr.; Gf.;

Gm.; Pz.; Mg.; Ll.; Fln.; Mq.; Ztt.; St. F. et Srv. Nigro-ænea, antennis ferrugineis apice nigris, thorace glauco-bivittato, alis limpidis, abdomine atro maculis sex subtrigonis fulvis ornato, pedibus ferrugineis, femoribus posticis supra nigris, tibiis posticis nigro-bifasciatis, tarsis posticis subfuscis basi nigris. Long. 3½–4; alar. 6–7 lin.

Æneous-black. Face, epistoma, sides of the peristoma, and under side covered with whitish bloom; sides of the peristoma yellow. Antennæ ferruginous; fourth and fifth joints black. Thorax adorned in front with 2 short bluish-white stripes; sides and breast covered with yellowish-white bloom; a slight black scapula along each side. Wings colourless; stigma pale brown. Halteres yellow. Abdomen velvety black, adorned on each side with three almost triangular tawny spots. Legs ferruginous; hind thighs black above and towards the tips; hind tibiæ adorned with two black bands; hind tarsi slightly brown above, black at the base. *Fem.* Front covered with tawny bloom; third joint of the antennæ black above.

Generally distributed. (E. S. I.)

Genus X. **XYLOTA.**

Xylota, Mq. d. i. 521 (1834); Mg. zw. vii.; Ct.; Rdn. *Musca* p., L.; Dg.; Shr. *Syrphus* p., Fb. e. s.; Pz. *Thereva* p., Fb. *Milesia* p., Ll.; Fb.; Fln. *Merodon* p., Fb. s. a. *Xylota* p., Mg. zw. iii.; St. F. et Srv.; Ztt. *Leptomyia* (incl.), Nwm.

Epistoma impressum. Antennæ capitis latitudine conjunctim breviores; articulus quartus dorsalis, quintus basi pubescens. Scutellum depressum, acutum. Areola subapicalis integra; lobus axillaris distinctus; venæ subcostalis et radialis ad marginem disjunctæ; vena transversa præbrachialis trans medium areolæ discalis locata.

Body linear, stout. Head semicircular, depressed in front; *epistoma* smooth, or with some very little scapulæ, obliquely truncate, *impressed*, retuse beneath; peristoma oval, straitened in front, curved upwards. Labrum short, robust, notched at the tip. Lingua strong, acute, not longer than the labrum. Maxillæ slender. Palpi cylindrical, subclavate, somewhat hairy towards the tips, as long as the maxillæ. Labium large, cylindrical. *Antennæ* 6-jointed, approximate, seated on a tubercle of the front, porrect, nutant, *jointly shorter than the breadth of the head*; first and second joints small, bristly; second cyathiform, broader than the first; third patelliform, pubescent; fourth and fifth very minute; *fourth seated on the third at the base; sixth long*, setiform, *slightly pubescent at the base.* Thorax subquadrate, with two humeral scapulæ, and with a transverse suture; scutellum semicircular, *flat, with a sharp edge.* Wings lanceolate, very finely pubescent, incumbent

and parallel in repose; middle transverse vein very slightly oblique; *subapical areolet entire; axillary lobe distinct; subcostal and radial veins ending separately in the margin; transverse præbrachial vein placed beyond the middle of the discal areolet.* Alulæ small. Halteres uncovered. Abdomen sublinear; first segment short; fifth generally hidden. Anterior legs short, slender; hind legs stout, much larger; hind femora clavate, subspinose; hind tibiæ curved, sinuated on the inner side. *Male.* Eyes contiguous; facets of the front larger than those elsewhere. Abdomen linear, obtuse at the tip. *Fem.* Eyes parted. Abdomen fusiform, conical at the tip.

The larvæ of some species live in decayed wood.

1. **sylvarum,** L. s. n. ii. 985. 37 (1767); Fb.; Pz.! fn. xlv. 21; Ll.; Fln.; Mg.; Mq.; Ztt.—*impigra,* Pz.! fn. xlv. 21. *Chalybea,* fulvo-hirta, capite albo-pubescente, antennis nigris, alis subcinereis, *abdominis apice aureo-hirto,* tibiis basi flavis, tarsis fulvis. Long. 6; alar. 12 lin.

Chalybeous, clothed with short tawny hairs. Head black, as broad as the thorax, covered in front and beneath with white shining down, clothed beneath with white hairs. Mouth and antennæ black. Thorax with an æneous tinge, partly divided by an indistinct transverse suture, which is before the base of each wing; scutellum with a slight suture along its hind border. Wings pale grey; stigma brown. Alulæ white. Halteres yellow. *Abdomen clothed towards the tip with gilded hairs.* Tibiæ yellow towards the base; tarsi tawny, with black tips.

Generally distributed. (E. S. I.)

2. **lenta,** Mg. zw. iii. 222. 15 (1822); Mq.; Ztt.—*pigra,* Shr.; Fln.; Pz.! fn. lxv. *Nigra,* alis subcinereis, venis fusco-subnebulosis, *abdominis segmentis secundo et tertio rufis.* Long. 6; alar. 12 lin.

Black. Face and epistoma covered with shining white down. Third joint of the antennæ piceous, covered with tawny bloom. Wings pale grey, slightly tinged with brown along the borders of the veins. Halteres yellow. *Second and third abdominal segments red.* Hind legs very long.

3. **segnis,** L. s. n. ii. 988. 57 (1767); Dg.; Fb.; Shr.; Pz.! fn. lx. 3; Ll.; Fln.; Mg.; Mq.; Ztt. *Chalybea,* antennis nigris apice piceis, alis subcinereis ad costam subfuscis, *abdominis segmentis secundo et tertio fulvis,* tibiis tarsisque anterioribus fulvis, illis nigro-cinctis, tibiis posticis basi fulvis. Long. $3\frac{1}{2}$–$5\frac{1}{2}$; alar. 7–11 lin.

Chalybeous, covered in front and beneath with shining white down, clothed beneath with white hairs. Mouth piceous. Antennæ black; first and second joints beset with black hairs and bristles; third joint piceous. Scutellum with a transverse furrow near its hind border. Wings pale grey, slightly tinged with brown between the costa and the disc; stigma brown. Alulæ white, with yellow borders. Halteres tawny. *Second and third abdominal segments tawny.* Anterior tibiæ and

tarsi tawny, a black band on each of the former; hind tibiæ tawny towards the base; hind tarsi black above at the base and towards the tips.

Generally distributed. (E. S. I.)

4. **bifasciata,** Mg. zw. iii. 219. 10 (1822); Ct. ! b. e. 425. *Ænea,* alis subfuscis, *abdomine fulvo-bifasciato,* tibiis tarsisque fusco-fulvis. Long. 4½; alar. 9 lin.

Æneous. Head silvery-white in front. Wings pale brown. Halteres whitish. *Abdomen* black, *with two tawny bands,* æneous towards the tip. Legs tawny; femora æneous; tips of the tarsi brown; hind tibiæ brown, yellow towards the base. *Male.* Antennæ red; third joint ferruginous. Abdominal bands interrupted. *Fem.* Antennæ black; third joint piceous. Abdominal bands almost entire. Anterior tibiæ mostly brown.

Rare. In the British Museum. (E.)

5. **nemorum,** Fb. s. a. 192. 17 (1805); Mg.; Mq.; Ztt.; Lw. —*ignava,* Fln. *Chalybea,* antennis nigris apice piceis, alis subcinereis, *abdominis lateribus fulvo-sexmaculatis,* tibiis basi fulvis. Long. 3½–4½; alar. 7–9 lin.

Chalybeous. Head crowned in front and beneath with white down, clothed beneath with white hairs. Antennæ black; third joint piceous. Wings slightly grey; stigma pale brown. Alulæ white. Halteres yellow. *Abdomen adorned on each side with three tawny spots, which are tinged with whitish bloom.* Tibiæ tawny at the base.

Rare. In the collection of the Entomological Club. (E.)

6. **luteola,** Gm. s. n. v. 2879. 379 (1788); Nwm.—*dubia,* Fb.—*lateralis,* Fln.; Mg.; Mq.; Ztt. Nigro-ænea, *antennis rufis, alis subcinereis basi limpidis ad costam fusco-maculatis, abdominis lateribus basi flavis.* Long. 4½; alar. 9 lin.

Æneous-black. Head partly covered with white down, clothed beneath with white hairs. *Antennæ bright pale red. Wings slightly grey, colourless at the base, with a brown spot in the middle of the fore border.* Halteres pale yellow. *Abdomen with an interrupted yellow band occupying near half the length from the base.* Legs black; posterior tarsi tawny.

Very rare. In the collection of the Entomological Club. (E.)

Genus XI. **MILESIA.**

MILESIA, Ct. b. e. 34 (1824); Mq.; Ztt. *Musca* p., L.; Gm. *Syrphus* p., Pz. *Eristalis* p., Fb. *Milesia* p., Ll.; Fb.; Mg. *Milesia* et *Temnostoma,* St. F. et Srv. *Sphizea, Milesia,* et *Caliprobola,* Rdn.

Antennæ capitis latitudine conjunctim breviores; articulus quartus dorsalis; quintus nudus. Thorax pubescens; scutellum convexiusculum,

margine non bene determinato. Areola subapicalis integra, basi ad apicem latescens; lobus axillaris distinctus; venæ costalis et radialis ad marginem disjunctæ; vena transversa præbrachialis trans medium areolæ discalis locata.

Cylindrical. Head semicircular, compressed in front; epistoma contracted; peristoma oblong, straitened in front, inclined upwards. Proboscis nearly vertical, not longer than the head. Labrum robust, semicylindrical, obliquely truncate at the tip, which is bifid, and has three little teeth. Lingua acute, not so long as the labrum. Maxillæ small, compressed, subulate, about half the length of the palpi. Palpi membranaceous, hairy, clavate, curved upwards, longer than the labrum. Labium cylindrical, membranaceous. *Antennæ* five-jointed, porrect, nutant, seated on an almost cylindrical petiole, *jointly shorter than the breadth of the head*; first and second joints small; first cylindrical; second short, cyathiform; third large, nearly round; fourth extremely small, *seated on the third near the base*; fifth long, *bare*, setiform. *Thorax simply pubescent, somewhat convex, with an undefined edge.* Wings lanceolate, finely pubescent, incumbent and parallel in repose; *subapical areolet entire, gradually widened from the base outwards; axillary lobe distinct; subcostal and radial veins ending separately in the margin; transverse præbrachial vein placed beyond the middle of the discal areolet.* Alulæ small, partly covering the halteres, which are small. Abdomen cylindrical or elliptical; first segment short; fifth small, almost concealed. Legs rather stout; hind legs rather long; hind tibiæ curved, slightly compressed.

Male. Eyes nearly contiguous; facets of the fore part a little larger than those elsewhere.

Fem. Eyes parted.

The larvæ of some species live in the mould of decayed wood.

1. **speciosa,** Fb. s. a. 188. 6 (1804); Ll.; Pz.; Mg.; Ct.! b. e. 44. Ænea, fulvo-hirta, subtus nigra, antennis rufis, thoracis lateribus anticis albo-fasciculatis, alis limpidis ad costam fuscis, pedibus fulvis, femoribus nigris. Long. 8; alar. 14 lin.

Æneous, black beneath. Front, face, and epistoma tawny, shining. Antennæ pale red. Thorax with a white scapula on each shoulder, and with a tuft of yellow hairs on each side near the base of the wings. Wings colourless; a pale brown streak extending from two-thirds of the length to the tip, where it becomes broader and darker; stigma tawny; veins clouded with tawny. Alulæ white. Halteres tawny. Legs bright tawny; femora black, with tawny tips.

June. New Forest, Hampshire; frequents the flowers of *Euphorbia amygdaloides,* Wood Spurge. (E.)

Genus XII. **CRIORHINA.**

CRIORHINA, Hms.; Mq. d. s. 497 (1834); Mg.; Ztt.; Rdn. *Eristalis* p., Fb. *Syrphus* p., Pz.; Fln. *Milesia* p., Ll.; Mg. *Criorhina* et *Pocota*, St. F. et Srv.

Antennæ capitis latitudine conjunctim breviores; articulus quartus dorsalis, quintus nudus. Thorax pilosissimus; scutellum convexiusculum, margine non bene determinato. Areola subapicalis integra, basi ad apicem latescens; lobus axillaris distinctus; venæ costalis et radialis ad marginem disjunctæ; vena transversa præbrachialis ad vel trans medium areolæ discalis locata.

Body broad, thick, convex, very woolly. Eyes parted in both sexes; all the facets small. Palpi very long, curved, somewhat thickened towards the tips, full twice the length of the maxillæ (*C. femorata*). *Antennæ jointly shorter than the breadth of the head;* first joint linear; second clavate, a little shorter than the first; third rounded, much widened, its breadth about twice its length; *fourth joint seated on the third, near the base*; fifth long, *bare*, setiform. *Thorax somewhat convex, with an undefined edge. Subapical areolet entire, gradually widened from the base outwards; axillary lobe distinct; subcostal and radial veins ending separately in the margin; transverse præbrachial vein placed at or beyond the middle of the discal areolet.* Abdomen obconical.

1. **ranunculi,** Pz.! fn. xci. 21; Mg. (1822). *Nigra, nigro-hirta, scutello abdominisque apice fulvo-hirtis,* alis subcinereis nigro-nebulosis, tibiis piceis, tarsis ferrugineis, *femoribus posticis crassis.* Long. 7; alar. 14 lin.

Black, thickly clothed with black hairs. Head covered in front with white shining down. *Scutellum clothed with pale tawny hairs.* Wings pale grey, clouded with black about the transverse veins in the middle. Halteres tawny. *Abdomen clothed with tawny hairs towards the tip.* Legs black; *hind femora very thick*; tibiæ piceous; tarsi pale ferruginous.

Rare. (E.)

2. **berberina,** Fb. s. a. 240. 33 (1804); Mg.! zw. pl. 27. f. 9; Mq.; Lw.; Ztt. *Nigra, fulvo-hirta,* antennis ferrugineis, *scutello abdomineque nigro-hirtis, hujus apice albo-hirto,* pedibus piceis, tarsis subtus ferrugineis. Long. 5; alar. 12 lin.

Black. Head covered in front with white shining down. Antennæ ferruginous. *Scutellum clothed with black hairs.* Wings almost colourless, slightly clouded with grey. Halteres tawny. *Abdomen clothed with black hairs and towards the tip with whitish hairs.* Legs piceous; tarsi ferruginous beneath. *Male.* Thorax clothed with bright tawny hairs. *Fem.* Thorax clothed with pale tawny hairs.

Not common. (E.)

3. **oxyacanthæ,** Mg. zw. iii. 237. 12 (1822). *Nigra, fulvo-hirta,* antennis ferrugineis, *alis subcinereis, tibiis piceis, tarsis ferrugineis.* Long. 5–6; alar. 11–13 lin.

Black, thickly clothed with pale tawny hairs. Head covered with whitish down. Antennæ ferruginous. Thorax very thickly clothed with bright tawny hairs. *Wings slightly grey.* Halteres tawny. Legs black; *knees and tarsi ferruginous; tibiæ piceous. Fem.* Crown of the head covered with tawny down, which is interrupted by a piceous stripe.

Not rare. (E.)

4. **regula,** Fln. syrph. sppl. 9. 12 (1816); Ztt.—*floccosa,* Mg.; Mq. Nigra, fulvo-hirta, subtus cano-hirta, *antennis piceis fusco-nebulosis, abdominis lateribus basi flavo-fasciculatis,* pedibus nigris, tarsis subtus ferrugineis. Long. 5½–6½; alar. 12–14 lin.

Black, clothed with tawny hairs. Head with whitish hairs beneath, where it has a pale yellow covering; face and epistoma covered with white shining down. Antennæ piceous, with a hoary covering. Thorax covered beneath with hoary hairs. Wings colourless; stigma tawny, *an irregular brown band extending from it to the disc; a large diffuse pale brown spot near the tip.* Alulæ white, with tawny borders. Halteres tawny. *Abdomen clothed along each side with whitish hairs; a tuft of long pale yellow hairs on each side at the base*; femora clothed beneath with whitish hairs and at the tips with black hairs; tarsi ferruginous beneath.

Not rare. (E. I.)

5. **asilica,** Fln. syrph. 22. 10 (1816); Mg.; Mq.; Ztt. *Nigra, antennis ferrugineis, thorace fulvo-hirto,* alis cinereo-subnebulosis, *abdomine nigro-cyaneo fasciis tribus canis.* Long. 5–6; alar. 11–12 lin.

Black. Head covered on each side in front with hoary down. *Antennæ ferruginous. Thorax thickly clothed with dark tawny hairs.* Wings slightly clouded with grey; a brown spot near the middle of the fore border. Halteres tawny. *Abdomen bluish-black,* thinly clothed with pale hairs, *with three hoary bands*; first broad at the base, second and third interrupted.

Not rare. (E. S.)

6. **femorata,** L. fn. 1824 (1761); Gm.; Fln.; Mg.; Ztt.; St.! ill. pl. 47. f. 4.—*volvulus,* Fb.; Mg. *Nigro-ænea, antennis piceis basi fulvis, alis sublimpidis fusco-bifasciatis* ad costam subfulvis, *abdomine basi fulvo-bimaculato, femoribus basi fulvis, tarsis basi tibiisque anterioribus ferrugineis; Mas.* abdomine albido-hirto basi fulvo-hirto apice nigro-hirto. Long. 6–7; alar. 11–12 lin.

Æneous-black. Epistoma and peristoma covered with white shining down. Mouth piceous. Antennæ piceous; first joint tawny. Thorax thickly clothed with long tawny hairs. Wings nearly colourless, with a slight tawny tinge along the fore border, a narrow band on the

transverse veins of the middle, and a paler and more diffuse brown spot on the disc near the tip. Alulæ whitish. Halteres yellow. Abdomen clothed in the middle part with whitish hairs, at the tip with black hairs, and with tawny hairs towards the base, where there is a tawny spot on each side; all the hairs pale tawny. Femora tawny at the base; anterior tibiæ ferruginous; tarsi black, ferruginous towards the base.

Not common. (E.)

Genus XIII. **VOLUCELLA.**

VOLUCELLA, Gf. i. (1776); Mlr.; Shr. f. b.; Ll.; Mg.; St. F. et Srv.; Ct.; Mq.; Ztt.; Rdn. *Musca*, L.; Dg.; Fb.; Schlb.; Shr. i. a.; Gm.; Hbst. *Syrphus*, Fb.; Pz.; Fln.

Antennæ articulo quarto dorsali, sexto plumoso. *Alæ areola subapicali integra, lobo axillari distincto, venis subcostali et radiali ante marginem conjunctis. Halteres conspicui.*

Body broad. Head almost semicircular, somewhat contracted in front; epistoma much depressed above, conical and lengthened beneath, notched at the tip; peristoma oblong, narrow, straitened in front, but slightly inclined upwards. Eyes pubescent, bare in some species. Labrum long, narrow towards the tip, which is notched. Lingua narrow, pointed, nearly as long as the labrum. Maxillæ subulate, slightly curved, rounded at the tips, longer than the palpi. Palpi cylindrical, short, narrow, pubescent, membranous at the tips, with a few hairs on the side, almost half the length of the labrum. Labium semicylindrical, twice the length of the labrum. Antennæ four-jointed, approximate, inserted low in a cavity; first and second joints small; first slightly cyathiform; second broader, obliquely truncate, bristly, a little narrower towards the tips; third oblong, compressed, truncate beneath; fourth and fifth very small; *fourth seated on the base of the third*; sixth setiform, *thickly feathered*; its fringe above much broader than that below. Thorax oval. Wings divaricate; *subapical areolet entire; axillary lobe distinct; subcostal and radial veins meeting before they reach the margin.* Alulæ with fringed borders. *Halteres uncovered.* Abdomen almost oval. Legs rather stout.

Male. Eyes almost contiguous. Plume of the antennæ narrower than that of the female.

The species may be thus grouped :—

a. Body oblong, almost smooth. Abdomen elongate oval, slightly convex. Larvæ parasitic on those of wasps and hornets. Sp. 1.

a a. Body short. Abdomen very convex, almost globose.

b. Body almost smooth. Larvæ parasitic on those of wasps. Species 2, 3.

b b. Body hairy. Larvæ parasitic on those of humble-bees. Sp. 4.

1. **inanis,** L. s. n. ii. 989. 61 (1767); Shf.; Gm.; Rsi.; Pz.! fn. 11. 6; Ll.; Fln.; Mg.; St. F. et Srv.; Dmr.; Mq.; Ztt.—*apivora*, Dg.—*trifasciata*, Shr.—*micans*, Fb. *Lutea*, antennis ferrugineis, *thoracis disco nigro luteo-bivittato, alis subfulvis* postice subcinereis *apice fusco-nebulosis, abdomine nigro-bifasciato.* Long. 8; alar. 16 lin.

Luteous. Antennæ pale ferruginous. *Disc of the thorax and of the pectus black, the former with two slender luteous stripes.* Metathorax black. *Wings slightly tawny,* pale grey along the hind borders and at the tips, *near which they are clouded with brown.* Halteres yellow. *Hind borders of the first and second abdominal segments black.* Legs ferruginous; femora towards the base and coxæ black; tarsi piceous.

Rare. (E.)

2. **pellucens,** L. s. n. ii. 98. 9. 62; Dg. (1767); Gf.; Fb.; Schlb.; Gm.; Shr.; Rsi.; Pz! fn. i. 17; Fln.; Mg.; St. F. et Srv.; Mq.; Ztt.; Lw. *Nigra,* capite antennisque ferrugineis, scutello piceo, alis sublimpidis macula subquadrata nigra apice cinereo-subnebulosis, *abdomine basi albido semipellucido.* Long. 6–7½; alar. 14–16 lin.

Black. Head and antennæ ferruginous; fourth joint black. Scutellum piceous. Wings almost colourless, tinged with tawny towards the base, with a large subquadrate blackish spot extending from the middle of the fore border to the disc, slightly clouded with grey near the tips. Halteres luteous. *First segment of the abdomen whitish, semipellucid.*

Generally distributed. (E. S. I.)

3. **inflata,** Fb. e. s. iv. 280. 8 (1792); Mg.; St. F. et Srv.; Mq.; Ct.! b. e. 452.—*dryophila*, Shr. *Nigra,* capite luteo, thorace piceo, *antennis scutelloque ferrugineis,* alis sublimpidis basi fulvis macula subquadrata fusca, *abdomine basi interrupte semipellucido flavo.* Long. 6; alar. 13 lin.

Black. Head luteous. *Antennæ pale ferruginous.* Thorax piceous. *Scutellum pale ferruginous.* Wings almost colourless, tawny towards the base, with a large subquadrate dark brown spot extending from the fore border to the disc, slightly tinged with grey near the tips. Halteres pale tawny. *Abdomen with a broad interrupted semipellucid pale yellow band near the base.*

Not common. (E.)

4. **bombylans,** L. fn. ii. 1792 (1761); Fb.; Shr.; Gm.; Pz.; St. F. et Srv.; Ll.; Pz.; Dnv. i. 151. 4; Ztt.; Mg.; Mq.; Lw.—*plumata*, Dg.; Shl.; Ll.; Fln.; Mg.; Lw.; Ztt.—*mystacea*, L.; Fb.; Gm.; Shr.; Pz! fn. viii. 22.—*sonora*, Mlr.—*plumosa*, Gm.; Shr.—*apiaria*, Shr.—*hæmorrhoidalis*, Ztt.; fig. Sch. ic. x. 7; Hrs. x. 3. Var. *melanopyrrha*, Frst. ct.; fig. Sch. ic. x. 6. *Nigra, hirta,* antennis ferrugineis apice nigris, scutello piceo, alis sublimpidis macula subquadrata nigra apice cinereo-subnebulosis. Long. 6–7; alar. 14–16 lin.

Black, clothed with black hairs. Head covered with tawny down. Antennæ ferruginous; fourth and following joints black. Scutellum piceous. Wings almost colourless, with a large subquadrate blackish spot extending from the middle of the fore border to the disc, slightly clouded with grey near the tips. Halteres tawny. Abdomen clothed towards the tip with orange hairs. *Var.* β. Thorax clothed with tawny hairs. Abdomen clothed with whitish hairs, bare towards the base, which has a tuft of pale tawny hairs on each side.

The larva is fringed along each side with a double row of short spines, and the tip of its abdomen has six or four radii; it has six pair of tubercular feet, which much resemble those of *Helophilus pendulus*; each of them has three long claws.

Generally distributed. (E. S. I.)

Genus XIV. **SERICOMYIA.**

Sericomyia, Mg. (1803); Ll.; St. F. et Srv.; Mq.; Ztt.; Rdn. *Musca* p., L.; Dg.; Gm. *Syrphus* p., Fb.; Fln.; Pz.

Antennæ articulo quarto dorsali, quinto plumato. Alæ areola subapicali integra, lobo axillari distincto, venis subcostali et radiali ad marginem disjunctis.

Body broad, convex, slightly hairy. Head rather flat in front; epistoma convex, with some scapulæ prolonged below the eyes; peristoma oblong, narrow in front. Labrum stout, notched at the tip. Lingua acute, as long as the labrum. Maxillæ subulate, as long as the palpi (*S. mussitans*), or but half their length (*S. borealis*). Palpi cylindrical, hairy, as long as the labrum. Labium semicylindrical. Antennæ 4-jointed, porrect, nutant; first and second joints small; third patelliform; fourth setiform, *seated on the base of the third; fifth plumose.* Wings lanceolate, finely pubescent, diverging; alulæ double, fringed, not quite covering the halteres; *subapical areolet entire; axillary lobe distinct; subcostal and radial veins ending separately in the margin.* Abdomen elliptical. Legs rather stout. *Male.* Eyes contiguous. *Fem.* Eyes remote.

1. **borealis,** Fln. syrph. 20. 7 (1816); Mg. zw. iii. 343. 2. pl. 30. f. 9; Mq.; Ztt.; Lw.—*lappona*, Dg. Nigra, capite piceo, antennis scutelloque ferrugineis, alis cinereis basi et ad costam ferrugineis, *abdomine flavo-quadrifasciato*, pedibus ferrugineis. Long. 6–8; alar. 12–16 lin.

Black. Head piceous, covered in front with yellow down, which is interrupted by a piceous shining scapula. Antennæ and scutellum ferruginous. Wings grey, ferruginous at the base and along the costa. Halteres black. *Abdomen with four slightly arched yellow bands*; hind

borders of the segments fringed with yellow hairs. Legs ferruginous. *Male.* First, second, and third abdominal bands interrupted. *Fem.* First abdominal band interrupted. *Var. β, mas.* Femora with piceous stripes. *Var. γ, fœm.* Second abdominal band interrupted.

Not rare in the north. (E. S. I.)

2. **lappona,** L. s. n. ii. 983. 27 (1767); Fb.; Mg.; Ll.; Fln.; Mq.; Lw.; Ztt. Nigra, scutello ferrugineo, *alis* cinereis basi et ad costam fulvis *apice fusco-nebulosis, abdomine albo-trifasciato,* pedibus ferrugineis. Long. 5–6; alar. 12–14 lin.

Black. Head covered with yellow down on each side in front. Scutellum ferruginous. *Wings* grey, tawny at the base and along the fore border, *clouded with brown at the tips.* Halteres tawny, with piceous knobs. *Abdomen with three narrow white bands,* the first slightly interrupted. Legs ferruginous.

Not rare in the north. (E. S. I.)

3. **superbiens,** Mlr. pr. 2093 (1776).—*mussitans,* Fb.; Gm.; Mg.; Pz.! fn. 1–15; Fln.; Mq.; Ztt. *Nigra, fulvo-hirta,* capite antico flavo, antennis rufis, alis subcinereis basi subfulvis ad costam fusco-maculatis. Long. 6–7; alar. 14–16 lin.

Black, thickly clothed with pale tawny hairs. Head yellow in front. Antennæ pale red. Thorax clothed with bright tawny hairs. Wings slightly grey, with a tawny tinge at the base and a large brown spot beneath the middle of the costa. Halteres black. Legs almost bare; tarsi dark ferruginous beneath.

Not rare. (E. I.)

Genus XV. **CHRYSOTOXUM.**

CHRYSOTOXUM, Mg. kl. ? (1804); Ll.; St. F. et Srv.; Mq.; Ztt.; Rdn.; Ct.; Lw. *Musca* p., L.; Dg.; Mlr.; Shr.; Gf. *Syrphus* p., Fb.; Rsi.; Pz. *Conops* p., Spl. *Mulio* p., Fb. s. a.; Fln. *Milesia* p., Fb. s. a.

Antennæ conjunctim capitis latitudine non breviores, articulo quarto tertii basi inserto, quinto nudo vel pubescente. Alæ areola subapicali integra, lobo axillari distincto, venis subcostali et radiali ad marginem disjunctis.

Head semicircular, broader than the thorax; face vertical, concave; epistoma with a scapula above the peristoma; peristoma elongate, straitened in front, somewhat curved upwards. Labrum rather large, slightly tapering, narrow in front, notched at the tips. Lingua lanceolate, rather shorter than the labrum. Maxillæ straight, subulate, curved upwards, shorter than the palpi, clothed with long hairs, rounded at the tips. Palpi shorter than the labrum, longer than the maxillæ, clavate (*C. arcuatum*) or cylindrical (*C. fasciolatum*). Labium short, very large. Antennæ 5-jointed, porrect, approximate, com-

pressed, seated on a little tubercle of the fore front, *jointly as long as the breadth of the head*; first, second, and third joints almost equally long, obliquely truncated; first and second beset with slender bristles; first cylindrical, subclavate; second somewhat compressed, widened above; third compressed, narrower in front; fourth very minute, *seated near the base of the third*; fifth setiform, *bare or pubescent*, hardly longer than the third. Thorax almost quadrate, slightly hairy; scutellum semicircular. Wings lanceolate, finely pubescent, diverging, longer than the body; *subapical areolet entire; axillary lobe distinct; subcostal and radial veins ending separately in the margin.* Abdomen long-elliptical, convex, broader than the thorax, pubescent or quite bare, with a rim on each side. Femora tapering to the tips; tibiæ clavate, curved, compressed towards the tips. *Male.* Eyes almost contiguous. *Fem.* Eyes somewhat remote.

These flies are usually black and bright yellow. The larvæ are said to live on the roots of plants. The species may be thus divided:—

a. Eyes bare. Species 1–5.
a a. Eyes pubescent. Species 6.

1. **bicinctum,** L. fn. 1805 (1761); Dg.; Fb.; Shr.; Gm.; Dnv.; Pz.; Mg.; Ll.; Fln.; Mq.; Ztt.; Rdn.; Lw.; Ct.—*tricinctum,* Rdn. Nigrum, thorace flavo-bivittato, alis costa ferruginea apice fusca, *abdomine fasciis arcuatis duabus et segmentorum marginibus posticis* pedibusque *flavis, femoribus anterioribus basi posticisque nigris,* tarsis ferrugineis. Long. 5; alar. 10 lin.

Black. Epistoma luteous, with a broad black stripe. Antennæ luteous at the tips. Thorax with four yellow stripes; the inner pair on the fore part, indistinct; the outer pair interrupted. Wings ferruginous at the base, and along the fore border till near half the length, brown from thence almost to the tips. *Abdomen with two arched broad bands, and the hind borders of the segments yellow.* Legs yellow; *anterior femora black at the base; hind femora black with tawny tips;* tarsi ferruginous. *Fem.* Vertex with a yellow spot on each side.

Generally distributed. (E. S. I.)

2. **festivum,** L. fn. ii. 1812 (1761); Gf.; Spl.—*bipunctatum,* Mlr.—*arcuatum,* Fb.; Shr.; Gm.; Gf.; Mg.; Ll.; Fln.; Mq.; Ztt.; Rdn.; Lw.; Ct.; Grn.; fig. Sch. ic. lxxiii. 8; Hhs. xv. 16. Nigrum, capite plerumque flavo, thorace vittis duabus scutellique margine flavis, alis subcinereis ad costam luteis, *abdomine fasciis quatuor interruptis apiceque flavis vel luteis, pedibus luteis.* Long. 5–5½; alar. 10–11 lin.

Black. Head white behind; epistoma with a broad black stripe. Antennæ luteous towards the tips. Thorax with four yellow stripes; the inner pair on the fore part, indistinct; the outer pair interrupted. Wings slightly tinged with grey; a diffused luteous stripe extends along

the fore border for three-fourths of the length from the base, and terminates in a pale brown spot. *Abdomen with four interrupted bands and the tip yellow or luteous; hind borders of the third and fourth segments tawny. Legs luteous*; tibiæ occasionally yellow. *Male.* Epistoma luteous. *Fem.* Epistoma bright yellow; a yellow spot on each side of the vertex.

Generally distributed. (E. S.)

3. **arcuatum,** L. fn. 1806 (1761).—*fasciatum*, Mlr. ?—*intersectum*, Gf.—*vespiforme*, Fb.—*alternatum*, Shr. ?—*fasciolatum*, Mg. (fem.); Mq.; Ztt.; Rdn.; Lw.; Ct.—*hortense*, Mg. (mas.) Nigrum, capite plerumque flavo, thorace vittis duabus scutelloque flavis, alis subcinereis ad costam fulvis, *abdomine fasciis quatuor arcuatis quatuorque rectis flavis, pedibus luteis, femoribus basi nigris.* Long. 5½–6; alar. 11–12 lin.

Black. Head white behind; epistoma luteous, or bright yellow with a luteous fore border; a short brown stripe on each side of the middle black stripe. Antennæ luteous towards the tips. Thorax with two outer interrupted yellow stripes; fore part with two inner hoary stripes; scutellum yellow, with a brown disc. Wings slightly grey, with a diffused tawny stripe which extends along two-thirds of the fore border from the base. Halteres luteous. *Abdomen with four very slightly arched interrupted yellow or luteous bands, which join the yellow hind borders of the segments on each side*; first of the latter bands narrow and interrupted; fourth occupying the whole segment. *Legs luteous; femora at the base and coxæ black*; tibiæ occasionally yellow.

Generally distributed. (E. I.)

4. **octomaculatum,** Ct. ! b. e. 653. 5 (1838). Nigrum, thoracis vittis duabus interruptis scutellique margine flavis, *abdomine fasciis quatuor latis interruptis arcuatis quatuorque integris flavis.* Long. 5; alar. 10 lin.

Fem. Black. Vertex with two yellow spots; epistoma yellow on each side. Thorax with two short hoary stripes on the fore part, and with a yellow interrupted stripe on each side; scutellum yellow, with a black disc. Wings pale grey, tawny along the fore border. Halteres luteous. *Abdomen with four broad interrupted arched bands which widen on each side and are then connected with four entire bands which are convex on the fore border, of these the second, third, and fourth are very broad, and the abdomen is almost wholly yellow towards the tip.* Legs luteous.

Rare. In Mr. Stephens's collection. (E.)

5. **intermedium,** Mg. zw. iii. 169. 3 (1822); Mq.; Ztt.—*arcuatum* var. β, Fln. *Abdomine nigro, fasciis quatuor arcuatis interruptis anoque flavis.* Long. 6; alar. 12 lin.

Black. Epistoma yellow on each side. Thorax with two short hoary stripes in the fore part, and with a yellow interrupted stripe on each side; scutellum yellow, with a black disc. Wings colourless,

tawny along the fore border. Halteres luteous. *Abdomen with four interrupted arched yellow bands; tip and hind borders of the segments yellow.*

Rare. In Mr. Stephens's collection. (E.)

6. **marginatum,** Mg. zw. iii. 171. 5 (1822); Ztt.; Lw.—*arcuatum*, Pz.! fn. ii. 10.—*fasciolatum*, Fln.—fig. Hrs. xv. 15. *Abdomine nigro, fasciis flavis alterne interruptis, femoribus basi nigris.* Long. 6; alar. 12 lin.

Black. Epistoma yellow on each side. Thorax with two short hoary stripes on the fore part, and with a yellow interrupted stripe on each side; scutellum brownish, with a yellow border. Wings pale grey, tawny along the fore border. Halteres luteous. *Abdomen with four interrupted slightly arched yellow bands which are connected on each side with four entire yellow bands, these are successively wider towards the tip, which is yellow.* Legs luteous; *femora black towards the base.*

Rare. In Mr. Stephens's collection. (E.)

Genus XVI. **PSARUS.**

PSARUS, Ll. d. h. n. xxiv. 193. 563 (1804); Fb. s. a.; Mg.; St. F. et Srv.; Mq.; Ahr.; Lw.; Rdn. *Syrphus* p., Fb. e. s. *Ceria* p., Fb. e. s. sppl. *Musca* p., Gf.

Antennæ conjunctim capitis latitudine non breviores, articulo quarto tertii prope medium inserto, quinto nudo. Alæ areola subapicali integra, lobo axillari distincto, venis subcostali et radiali ad marginem disjunctis.

Body narrow. Epistoma with a scapula above the peristoma; peristoma oblong, straitened in front, inclined upwards. Labrum narrower towards the tip, which is notched. Lingua acute. Maxillæ subulate, bare, somewhat curved, almost as long as the palpi. Palpi clavate, bristly above, shorter than the labrum. Labium cylindrical. *Antennæ* porrect, 5-jointed, *jointly as long as the breadth of the head*, seated on a petiole in the fore front; first and second joints beset with short bristles; first cylindrical, hardly thicker at the tip; second compressed, somewhat widened in front, twice the length of the first, with which it forms an obtuse angle; third oblong, obtuse, compressed, somewhat shorter than the second; fourth very short, *seated near the middle of the third*; fifth setiform, *naked.* Thorax almost quadrate, convex; scutellum semicircular. Wings incumbent and parallel in repose; *subapical areolet entire; axillary lobe distinct; subcostal and radial veins ending separately in the margin.* Halteres almost uncovered. Abdomen long-elliptical, almost linear; tip obtuse. *Male.* Front straitened in the middle, narrower than that of the female. *Fem.* Front of equal breadth.

1. **abdominalis,** Fb. e. s. iv. 307. 108 (1792); Gf.; Ll.; Mg.; St. F. et Srv.; Mq.; Ztt. Niger, alis fusco-cinereis, abdomine rufo basi apiceque nigris. Long. 4; alar. 7 lin.

Black. Fourth joint of the antennæ luteous. Wings grey, brown along the costa. Halteres luteous. Abdomen red, black at the base and at the tip, and with an interrupted black dorsal stripe.

Rare. In the British Museum. (E.)

Genus XVII. **PARAGUS.**

PARAGUS, Ll. d. h. n. (1804); Mg.; St. F. et Srv.; Mq.; Ztt.; Ct.; Rdn. *Musca* p., Gm. *Syrphus* p., Fb. e. s.; Pz. *Mulio* p., Fb. s. a. *Pipiza* p., Fln.

Epistoma vix elongatum, ad os prominens. Antennæ capitis latitudine conjunctim breviores, basi contiguæ, articulo quarto dorsali, quinto nudo. Alæ areola subapicali integra, lobo axillari distincto, venis subcostali et radiali ad marginem disjunctis, vena transversa præbrachiali ante areolæ discalis medium locata, vena transversa inferiore undulata.

Head semicircular, rather large; *epistoma* smooth, convex, *but little elongated horizontally, protuberant towards the mouth,* with a little indistinct scapula above the peristoma; peristoma oblong, straitened in front, hardly inclined upwards. Eyes pubescent. Proboscis long. Labrum much shorter than the labium, somewhat narrower near the tip, which is notched. Lingua stout, lanceolate, shorter than the labrum. Maxillæ slender, subulate, curved, shorter than the lingua. Palpi membranous, clavate, pubescent, as long as the maxillæ, hardly half the length of the labium. Labium slender, long, cylindrical, membranous. *Antennæ* 5-jointed, *close together at the base,* porrect, nutant, *jointly shorter than the breadth of the head,* pubescent, inserted above the middle of the face; first and second joints beset with slender bristles; first cylindrical; second depressed, cyathiform, as long as the first; third subfusiform, compressed, almost longer than the second; fourth extremely short, *seated on the base of the third; fifth bare.* Thorax pubescent, convex, nearly round, as broad as the head; scutellum slightly transverse, almost semicircular. Wings finely pubescent, rather small, incumbent and parallel when at rest; *subapical areolet entire; axillary lobe distinct; subcostal and radial veins ending separately in the margin; transverse præbrachial vein placed before the middle of the discal areolet; lower transverse vein undulated.* Halteres uncovered. Abdomen linear, pubescent, convex, depressed at the base, with transverse wrinkles on each side behind the sutures. Legs slender, short; tibiæ subclavate; hind metatarsi somewhat thickened. *Male.* Eyes contiguous. *Fem.* Eyes remote.

1. **bicolor,** Fb. e. s. iv. 297. 71 (1792); Ll.; Mg.; St. F. et Srv.; Mq.; Ztt.; Rdn.—*melanochrysa,* Gm. Niger, *epistomate flavo nigro-fasciato, scutelli margine fulvo,* alis subcinereis, abdomine rufo-fasciato, *pedibus fulvis basi nigris.* Long. $2\frac{1}{2}$; alar. $4\frac{1}{2}$ lin.

Black. *Epistoma yellow, with a black band. Hind border of the scutellum tawny.* Wings slightly grey. Halteres yellow. Abdomen with a broad red band. Legs tawny; femora at the tips and tibiæ at the base yellow; femora black towards the base.

Rare. In the British Museum. (E.)

2. **arcuatus,** Mg. zw. iii. 179. 3. pl. 27. f. 20, 21 (1822); St. F. et Srv.; Mq. Niger, *epistomate flavo-albo, antennis apice ferrugineis, scutelli margine fulvo,* alis limpidis, *abdomine fascia testacea arcubusque tribus interruptis albidis, pedibus flavis* basi nigris apice fulvis, posticis fusco-cinctis. Long. $2\frac{3}{4}$; alar. $4\frac{1}{2}$ lin.

Black. *Epistoma yellowish-white. Third and fourth joints of the antennæ ferruginous*; third piceous above. *Hind border of the scutellum tawny.* Wings colourless. Halteres yellow. Abdomen æneous-black, *with one testaceous band and three arched interrupted whitish bands. Legs yellow*; femora towards the base and coxæ black; tibiæ towards the tips and tarsi tawny; hind tibiæ with brown bands; hind metatarsi brown.

Rare. In the British Museum. (E.)

3. **obscurus,** Mgrle.; Mg. zw. iii. 183. 12 (1822); Mq.; Ct.—*sigillatus,* Ct.! b. e. 593. Nigro-chalybeus, *epistomatis lateribus flavis,* antennis nigris, alis limpidis, *pedibus fulvis, femoribus basi nigris.* Long. $2\frac{1}{4}$–$2\frac{1}{2}$; alar. 4–$4\frac{1}{2}$ lin.

Chalybeous-black. *Epistoma* chalybeous-blue, *with a yellow stripe of various breadth along each side.* Antennæ black. Wings colourless. Halteres white. *Legs tawny; femora towards the base and coxæ black;* the black part occupies three-fourths of the hind femora and one-third of the fore femora. Var. β. A red spot on the disc of the abdomen.

Generally distributed. (E.)

4. **femoratus,** Mgrle.; Mg. zw. iii. 184. 14 (1822). Nigro-chalybeus, antennis nigris, *alis limpidis, pedibus fulvis, femoribus basi nigris, tibiis posticis nigro-cinctis.* Long. $2\frac{1}{4}$; alar. 4 lin.

Male and *Female.* Chalybeous-black. Head dingy white behind. Epistoma chalybeous-blue, with a pale tawny covering on each side. Antennæ black. *Wings colourless. Legs tawny; femora towards the base and coxæ black*; the black part occupies three-fourths of the hind femora and one-third of the fore femora; *a black band round each hind tibia.*

Generally distributed. (E. I.)

Genus XVIII. **PSILOTA.**

PSILOTA, Mg. zw. iii. 256 (1822); Ll.; St. F. et Srv.; Mq.; Ztt.; Rdn.

Epistoma vix elongatum, ad os prominens. Antennæ capitis latitudine conjunctim breviores, basi contiguæ, articulo quarto dorsali, quinto nudo. Alæ areola subapicali integra, lobo axillari distincto, venis subcostali et radiali ad marginem disjunctis, vena transversa præbrachiali ante areolæ discalis medium locata, vena transversa inferiore recta.

Body hairy. Head semicircular; *epistoma* smooth, convex, but little elongated horizontally, *protuberant towards the mouth*, with a little indistinct scapula above the peristoma. Eyes hairy. *Antennæ* 5-jointed, *jointly shorter than the breadth of the head*, pubescent, porrect, nutant, inserted above the middle of the face, *close together at the base*; third joint subfusiform, compressed; fourth extremely shortened, *seated on the base of the third; fifth bare.* Thorax convex, as broad as the head; scutellum slightly transverse, almost semicircular. Wings finely pubescent; *subapical areolet entire; axillary lobe distinct; subcostal and radial veins ending separately in the margin; transverse præbrachial vein placed before the middle of the discal areolet; lower transverse vein straight.*

1. **anthracina,** Mg.! zw. iii. 256. 1. pl. 29. f. 20 (1822); Mq. Nigra, capite nigro-cyaneo, alis cinereis, tarsis basi flavis, tarsis anticis basi genubusque luteis. Long. 2; alar. 5 lin.

Black, shining, pubescent. Head bluish-black. Wings grey. Fore tarsi towards the base and knees luteous; hinder tarsi yellow towards the base.

Rare. In Mr. Stephens's collection. (E.)

Genus XIX. **PIPIZA.**

PIPIZA, Fln. syrph. (1816); Mg.; St. F. et Srv.; Mq.; Ztt.; Rdn. *Musca* p., L.; Gm. *Syrphus* p., Fb.; Pz. *Eristalis* p., Fb. s. a. *Mulio* p., Fb. *Milesia* p., Ll.

Epistoma vix elongatum, recte descendens. Antennæ capitis latitudine conjunctim breviores, articulo quarto dorsali, quinto pubescente. Alæ areola subapicali integra, lobo axillari distincto, venis subcostali et radiali ad marginem disjunctis, vena transversa præbrachiali ante areolæ discalis medium inserta.

Body punctured. Head semicircular; crown smooth, shining; front projecting, almost conical; *epistoma* pubescent, *but little elongated horizontally, descending straight*; peristoma small, oval, not inclined upwards. Eyes hairy. Labrum short, stout, trifid at the tip. Lingua

broad, ovate, acute, shorter than the labrum. Maxillæ subulate, a little longer than the lingua, almost as long as the palpi. Palpi short, thick, cylindrical, pubescent, obtuse, clothed with short hairs at the tips. Labium short, thick, semicircular. *Antennæ* 5-jointed, projecting, nutant, seated on a prominent part of the front, *jointly shorter than the breadth of the head*; first and second joints short; first clavate, bristly; second broader, subcyathiform, shorter and broader than the first; third large, pubescent, compressed, oval or oblong, concave at the base; fourth very minute, *seated on the third near the base; fifth pubescent*, rather short, setiform. Thorax subquadrate, convex, pubescent. Wings lanceolate, finely pubescent, incumbent and parallel in repose; *subapical areolet entire; axillary lobe distinct; subcostal and radial veins ending separately in the margin; transverse præbrachial vein placed before the middle of the discal areolet.* Halteres uncovered. Abdomen subfusiform, pubescent, almost flat; segments slightly impressed on each side. Legs short, stout, pubescent; metatarsi as long as the other four joints; hind legs longer and stouter than the anterior.

This genus is allied to *Xylota* in the structure of the mouth. The species may be thus grouped :—

a. Abdomen with yellow bands or spots. Species 1–8.
a a. Abdomen unspotted. Species 9.

1. **quadrimaculata,** Pz! fn. lxxxvi. 19; Fln. (1816); Mg.; St. F. et Srv.; Mq.; Ztt.; Lw. Nigro-ænea, capite chalybeo, antennis nigris, alis subcinereis fusco-nebulosis, *abdomine maculis duabus magnis subquadratis flavis duabusque parvis transversis angustis fulvis, genubus tarsisque fulvis.* Long. 5; alar. 10 lin.

Æneous-black. Head bluish-black. Antennæ black. *Wings* greyish, *clouded with brown beneath the stigma. Abdomen with two large subquadrate yellow spots on the second segment, and with two transverse slender slightly oblique tawny streaks on the third.* Legs black; *knees and tarsi tawny.*

Not common. In the collection of the Entomological Club. (E.)

2. **quadriguttata,** Mq. d. n. 8 (1827). d. i. 570. 10. Nigro-ænea, antennis piceis, alis subcinereis, *abdomine maculis fulvis duabus magnis subquadratis duabusque parvis arcuatis obliquis, tibiis piceis, genubus tarsisque fulvis.* Long. 4½; alar. 9 lin.

Æneous-black, clothed with tawny hairs. Antennæ piceous. Wings slightly grey. Abdomen with two large subquadrate tawny spots on the second segment, and with two small curved oblique tawny spots on the third. Legs black; tibiæ piceous; knees and tarsi tawny.

Not common. In the collection of the Entomological Club. (E.)

3. **noctiluca,** L. fn. 181 (1761); Fb.; Ll.; Fln.; Mg.; St. F. et Srv.; Mq.; Lw.; Ztt.—*rosarum,* Pz.! fn. lxxii. 24. xcv. 21.

Nigro-ænea, *alis subcinereis fusco-semifasciatis, abdomine maculis duabus magnis transversis flavis*, tarsis ferrugineis. Long. 4; alar. 8 lin.

Fem. Æneous-black. Proboscis piceous. Antennæ black. *Wings pale grey; a large brown spot extending from the stigma to the middle of the disc*; stigma dark brown, long and narrow. Halteres white. *Abdomen with a large transverse yellow spot on each side of the second segment.* Legs black; knees and tarsi ferruginous.

Generally distributed. (E. I.)

4. **bimaculata,** Mg. zw. iii. 247. 11 (1822). Nigra, *alis subcinereis fusco-semifasciatis, abdomine* nigro-æneo *maculis duabus rufo-fulvis.* Long. 4½; alar. 9 lin.

Black, rather broad. *Wings pale grey; an indistinct pale brown spot extending from the stigma to the middle of the disc*; stigma brown. Halteres dark brown, with pale yellow knobs. *Abdomen* with a slight æneous tinge; *a variable reddish-tawny spot on each side of the second segment, and sometimes a smaller and very indistinct spot of the same colour on each side of the third segment.* Tarsi occasionally ferruginous.

Not rare. (E.)

5. **notata,** Mg. zw. iii. 246. 10 (1822); Mq.; Ztt. Nigra, *alis subcinereis fusco-semifasciatis, abdomine maculis duabus magnis fulvis*, tarsis ferrugineis. Long. 3½; alar. 7 lin.

Black. *Wings pale grey; a large pale brown spot extending from the stigma to the middle of the disc*; stigma brown. Halteres pale yellow. *A large tawny spot on each side of the second segment of the abdomen.* Knees and tarsi ferruginous, the latter pale beneath.

Not rare. (E.)

6. **guttata,** Mg. zw. iii. 247. 12 (1822); Mq.; Ztt. Nigra, *antennis ferrugineis basi nigris, alis subcinereis obsolete fusco-semifasciatis, abdomine* nigro-æneo *maculis duabus obliquis fulvis*, tarsis fulvis. Long. 3–4; alar. 6–8 lin.

Black. *Antennæ ferruginous, black at the base.* Wings pale grey; *an indistinct pale brown spot extending from the stigma to the middle of the disc*; stigma pale brown. Halteres white. Abdomen with a slight æneous tinge; an oblique tawny spot on each side of the second segment. Knees and tarsi tawny.

Not rare. (E.)

7. **vitrea?** Mg. zw. iii. 249. 15 (1822); St. F. et Srv.; Mq.; Ztt. Var.? Nigra, *epistomate antennis basi pedibusque fulvis, alis subcinereis, abdomine fulvo apice nigricante.* Long. 2½; alar. 7 lin.

Epistoma tawny. Antennæ tawny towards the base. Wings pale grey; stigma brown. *Abdomen tawny, blackish towards the tip. Legs tawny.*

Rare. In the collection of the Entomological Club. (E. I.)

8. **flavitarsis,** Mg. zw. iii. 248. 44 (1822); Mq.; Ztt. Nigro-cyanea, antennis nigris, alis fusco-cinereis, *abdomine fulvo-biguttato*, pedibus nigris, *tarsis flavis*. Long. 2½; alar. 5 lin.

Black. Body punctured. Head and thorax bluish-black; third joint of the antennæ linear, slender, conical at the tip, much longer and a little broader than the first and the second joints. Wing grey, with some indistinct brown streaks beneath the stigma, which is brown. Halteres pale yellow. A very small round tawny spot on each side of the second segment of the abdomen; underside yellow towards the base. Tarsi yellow, with pitchy tips; anterior knees tawny; hind knees ferruginous.

Not common. In the collection of the Entomological Club. (E. S.)

9. **lugubris,** Fb. s. i. ii. 431. 50 (1781); Shr.; Mg.; St. F. et Srv.; Mq.; Ztt.—*mœsta*, Gm.—*lugubris*, Shr.; Fb. Nigra, *alis subcinereis basi fuscis fusco-semifasciatis*. Long. 3½–4; alar. 7½–8.

Black. *Wings pale grey, brown at the base, and with a large dark brown spot extending from the stigma beyond the middle of the disc*; stigma dark brown. Halteres pale yellow. Knees ferruginous. Tarsi piceous, ferruginous beneath.

Not rare. (E.)

10. **melancholica,** Mg. zw. iii. 251. 20 (1822). Nigro-cyanea, *antennis articulo tertio fusiformi, alis cinereis indistincte semifasciatis*, tarsis fulvis, metatarsis posticis nigris. Long. 2½–3; alar. 5–6 lin.

Male and *Female*. Bluish-black. *Antennæ with the third joint fusiform, not much broader than the second. Wings grey, a large indefinite dark grey spot extending from the stigma to the middle of the disc*; stigma yellowish-brown; veins black. Halteres yellow. Knees and tarsi tawny; the tarsi somewhat piceous above; hind metatarsi black.

Not common. (E.)

11. **vitripennis?** Mg. zw. iii. 254. 29 (1822); Mq. *Nigra, antennis subtus ferrugineis, alis subcinereis, abdomine subtus fuscescente, genubus tarsisque fulvis*. Long. 2½–2¾; alar. 5½–6 lin.

Black, clothed with hoary hairs. Body punctured. Antennæ ferruginous beneath. Wings pale grey; stigma pale brown. Halteres pale yellow. Abdomen yellowish-brown beneath. Knees and tarsi tawny; anterior tibiæ tawny at the base and at the tips.

Not rare. (E.)

12. **virens,** Fb. s. a. 186. 12 (1805); Mg.; St. F. et Srv.; Mq. —*campestris*, Fln.; Ztt.—*geniculata*, Ct. b. e. 593. *Nigro-ænea*, capite nigro-chalybeo, antennis piceis, alis fusco-subcinereis, *tarsis anterioribus basi genubusque fulvis*. Long. 2¾–3; alar. 5–5½ lin.

Æneous-black, clothed with hoary hairs. Body punctured. Third

joint of the antennæ piceous, slightly increasing in breadth towards the tip, which is obliquely truncated, rather broader and very much longer than the first and second joints. Wings pale grey; a large indefinite pale brown spot extending from the stigma to the middle of the disc; stigma pale brown. Halteres tawny. Knees tawny; anterior tarsi tawny at the base.

Generally distributed. (E. S. I.)

13. **interrupta,** Hal. e. m. i. 165 (1833). *Obscure ænea,* antennis capite longioribus, *alis limpidis,* vena transversa apicis interrupta, genubus ferrugineis. Long. 2; alar. 4¼ lin.

"Half the size of the small variety of *P. virens,* which it resembles, but the body is much less pubescent, and the front and face have only a few very inconspicuous greyish hairs; third joint of the antennæ more oblong than in that species."

Rare. In Mr. Haliday's collection. (I.)

Genus XX. **ORTHONEURA.**

ORTHONEURA, Mq. d. n. (1827). *Eristalis* p., Fln. *Chrysogaster* p., Mg.; St. F. et Srv.; Lw.

Epistoma vix elongatum, ad os prominens. Antennæ basi disjunctæ, capitis latitudine conjunctim breviores; articulus tertius linearis; quartus dorsalis; quintus nudus. Scutellum depressum, ad marginem acutum. Alæ areola discali ab margine posteriore divaricata, areola subapicali integra, lobo axillari distincto, venis subcostali et radiali ad marginem disjunctis, vena transversa præbrachiali ante areolæ discalis medium inserta.

Body almost bare. Colour metallic. Head semicircular; *epistoma but little elongated horizontally, protuberant towards the mouth. Antennæ* 5-jointed, porrect, nutant, *separated at the base, jointly shorter than the breadth of the head,* seated on a tubercle of the front; first and second joints small; *third linear; fourth seated on the back of the third;* fifth setiform, *bare. Scutellum flat, with a sharp edge.* Wings finely pubescent, incumbent and parallel in repose; *discal areolet diverging from the posterior margin; subapical areolet entire; axillary lobe distinct; subcostal and radial veins ending separately in the margin; transverse præbrachial vein placed before the middle of the discal areolet.* Abdomen oblong, depressed. Legs slender. *Male.* Eyes contiguous. *Fem.* Eyes remote.

1. **elegans,** Wd.; Mg. zw. iii. 272. 14 (1822); Mq.; Lw.; Ztt. Ænea, antennis ferrugineis, alis subcinereis, *genubus tarsisque fulvis.* Long. 2½; alar. 5 lin.

Fem. Æneous. Vertex slightly transversely furrowed on each side.

Antennæ ferruginous. Disc of the thorax cupreous. Wings slightly grey; stigma lurid. Halteres luteous. *Knees and tarsi tawny,* the latter black towards the tips.

Not common. (E.)

2. **nobilis,** Fln. syrph. 57. 17 (1816); Mg.; Mq.; Lw.; Ztt. Æneo-viridis, *antennis articulo tertio piceo subtus ferrugineo,* alis cinereis, *tarsis nigris.* Long. 2½; alar. 5 lin.

Male. Æneous-green. *Antennæ black; third joint piceous, ferruginous beneath.* Disc of the thorax cupreous. Wings grey. Halteres luteous. *Tarsi black.*

Rare. In Mr. Stephens's collection. (E. I.)

Genus XXI. **CHRYSOGASTER.**

CHRYSOGASTER, Mq. d. n. (1827). *Musca* p., L.; Gm. *Syrphus* p., Fb. e. s.; Pz. *Eristalis* p., Fb. s. a.; Fln. *Milesia* p.? Ll. *Chrysogaster* p., Mg.; St. F. et Srv.; Ztt.; Lw.; Rdn.

Epistoma vix elongatum, ad os prominens. Antennæ basi disjunctæ, capitis latitudine conjunctim breviores; articulus tertius ovatus vel orbiculatus; quartus dorsalis; quintus nudus. Scutellum depressum, ad marginem acutum. Alæ areola discali ab margine posteriore divaricata, areola subapicali integra, lobo axillari distincto, venis subcostali et radiali ad marginem disjunctis, vena transversa præbrachiali ante areolæ discalis medium inserta.

Body almost bare. Colour metallic. Head semicircular; epistoma *protuberant towards the mouth, but little elongated horizontally;* peristoma prominent, oblong, narrower in front, inclined upwards. Eyes bare. Labrum notched at the tip. Lingua acute. Maxillæ subulate, not half the length of the palpi. Palpi curved, filiform, somewhat clavate at the tips, slightly hairy, longer than the labrum. Labium semicylindrical. Antennæ 5-jointed, porrect, nutant, seated on a tubercle of the front, *separated at the base, jointly shorter than the breadth of the head*; first and second joints small; *third oval or round; fourth seated on the back* of the third; fifth setiform, *bare. Scutellum flat, with a sharp edge.* Wings finely pubescent, incumbent and parallel in repose. *Discal areolet diverging from the posterior margin; subapical areolet entire; axillary lobe distinct; subcostal and radial veins ending separately in the margin; transverse præbrachial vein placed before the middle of the discal areolet.* Abdomen oblong, depressed. Legs slender. *Male.* Epistoma most often with some tubercles. Eyes contiguous. Thorax beset with fine hairs. *Fem.* Eyes remote. Front with a row of oblique transverse furrows on each side; these are

sometimes interrupted, and in some species are replaced by indistinct wrinkles.

These flies chiefly frequent the *Ranunculi* and *Caltha palustris* on moist ground during the spring and the summer. The species may be thus grouped:—

a. Thorax with three longitudinal striæ. Species 1.
a a. Thorax without striæ.
  b. Third joint of the antennæ round.
    c. Epistoma with tubercles.
      d. Wings at the base and stigma yellow. Species 2, 3.
      d d. Wings at the base not yellow.
        e. Antennæ with the third joint red. Species 4.
        e e. Antennæ piceous. Species 5.
    c c. Epistoma without tubercles.
      f. Front transversely furrowed. Species 6.
      f f. Front without furrows. Species 7.
  b b. Third joint of the antennæ almost linear. Species 8.

1. **splendens,** Mg. zw. iii. 266. 1 (1822); Mg.; Lw. Viridi-ænea, antennis ferrugineis, thorace striato, scutello marginato, alis subcinereis, abdomine atro lateribus cupreo apice et subtus æneo. Long. $3\frac{1}{4}$–$3\frac{1}{2}$; alar. 7–8 lin.

Greenish-æneous. Head greenish-black, punctured. Antennæ ferruginous. Thorax with three very slight furrows; a transverse furrow near the tip of the scutellum. Wings pale grey. Halteres tawny. Abdomen deep black, cupreous along each side, æneous at the tip and beneath.

Not rare. (E. I.)

2. **chalybeata,** Mg. zw. iii. 267. 4 (1822); Mq.; Lw.; Ztt.—*cupraria*? Mg.; Mq. *Antennis rufis,* alis cinereis, abdominis disco purpureo; *Mas.* aureo-viridis, thoracis disco cupreo-purpureo; *Fœm.* ænea, alis ad costam luridis. Long. 3; alar. 6 lin.

Antennæ black; second and third joints red; third round. Wings grey. Halteres yellow. Disc of the abdomen dark purple. Tarsi black. *Male.* Golden-green. Disc of the thorax cupreous-purple. *Fem.* Æneous. Vertex broad, transversely furrowed on each side. Wings with a lurid tinge along two-thirds of the costa.

Rare. In the collections of the Entomological Club and of Mr. Stephens.

3. **fumipennis,** Stph. Cuprea, capite nigro-viridi, *antennis* pedibusque *piceis,* alis subcinereis; *Mas.* abdomine basi lurido. Long. $2\frac{1}{2}$–$3\frac{1}{2}$; alar. 6–7 lin.

Cupreous. Head greenish-black. Antennæ piceous. Wings pale grey, brownish beneath the stigma, which is tawny. Halteres tawny.

Legs piceous. *Male.* Abdomen indistinctly lurid towards the base, ferruginous along each side beneath. *Fem.* Front somewhat obliquely striated across each side. Antennæ brighter than those of the male.

Not rare. (E. S.)

4. **cœmeteriorum,** L. s. n. ii. 992. 8 (1767); Fb.; Gm.; Pz.! fn. lxxxii. 17; Mg.; Mq.; Zw.—*solstitialis,* Fln.; Ztt. Antennis genubusque ferrugineis, alis nigricantibus; *Mas.* ater, scutello abdominisque lateribus apice ventreque æneis; *Fœm.* thorace cupreo, scutello nigro-viridi, abdomine nigro. Long. $3\frac{1}{4}$–$3\frac{1}{2}$; alar. 7–$7\frac{1}{2}$ lin.

Antennæ ferruginous. Wings blackish, darkest about the stigma. Legs black; femora æneous; knees ferruginous. *Male.* Deep black. Head æneous-black. Scutellum æneous. Halteres piceous. Abdomen æneous along each side, at the tip and beneath. *Fem.* Head black, with slightly oblique furrows on each side of the vertex; face æneous. Thorax cupreous; scutellum blackish-green. Wings paler. Alulæ white. Halteres ferruginous. Abdomen black.

Not rare. (E. I.)

5. **viduata,*** Fln.; Mg.; Mq.; Lw.; Ztt. Nigro-ænea, antennis piceis, alis cinereis, pedibus nigris; *Mas.* capite nigro-cyaneo, abdomine atro. Long. $2\frac{1}{2}$–3; alar. 5–6 lin.

Æneous-black. Antennæ piceous. Wings grey. Halteres ferruginous. Legs black. *Male.* Head bluish-black. Abdomen, except the tip, deep black, velvety. *Fem.* Vertex almost smooth; a transverse impression above the antennæ.

Generally distributed. (E. S. I.)

6. **metallica,** Fb. s. a. 246. 67 (1805); Fln.; Mg.; Mq.; Lw.; Ztt.—*metallina,* Fb. s. i.; Gm. Cyaneo-viridis, antennis nigris, alis subcinereis ad costam subfulvis, tarsis piceis. Long. 3; alar. 6 lin.

Metallic-green. Head and thorax slightly tinged with blue. Antennæ black. Wings pale grey, with a slight tawny tinge along the fore border as far as the stigma, which is tawny. Halteres yellow. Abdomen with an æneous tinge. Tarsi piceous.

Generally distributed. (E. I.)

7. **discicornis,** Mgrle.; Mg. zw. iii. 270. 8 (1822). Cyaneo-viridis, æneo-varia, antennis nigris, alis subcinereis. Long. 3; alar. 6 lin.

Bluish-green, here and there æneous. Peristoma very prominent. Antennæ black; third joint very large, nearly round, a little broader than long. Wings very slightly grey; stigma lurid. Halteres tawny. Legs clothed with tawny down.

Not rare. (E. S. I.)

* *Musca viduata,* L. fn. 1852 (1761), is a species of *Paragus.*

8. **splendida,** Mgrle.; Mg. zw. iii. 271. 11 (1822); Mq.; Lw. Ænea, antennis nigris, alis subcinereis, pedibus piceis, femoribus æneis, tibiis basi genubusque fulvis. Long. $2\frac{1}{2}$–$2\frac{3}{4}$; alar. 5–$5\frac{1}{2}$ lin.

Æneous. Antennæ black; third joint long and slender. Wings greyish. Halteres luteous. Legs piceous; femora æneous; tibiæ and tarsi clothed with ferruginous hairs; tibiæ at the base and knees tawny.

Not common. (E.)

Genus XXII. **BRACHYOPA.**

BRACHYOPA, Mg. zw. iii. 260 (1822); St. F. et Srv.; Mq.; Lw.; Ztt.; Rdn. *Oscinis* p., Fb.? *Musca* p., Pz.; Fb.? *Rhingia* p., Fln.

Epistoma vix elongatum, ad os prominens. Antennæ basi disjunctæ, capitis latitudine conjunctim breviores; articulus quartus dorsalis; quintus nudus vel pubescens. Scutellum convexiusculum, margine non bene determinato. Alæ areola discali ab margine posteriore divaricata, areola subapicali integra, lobo axillari distincto, venis subcostali et radiali ad marginem disjunctis, vena transversa præbrachiali ante areolæ discalis medium locata.

Head semicircular, narrower than the thorax; *epistoma but little elongated horizontally, protuberant towards the mouth,* much impressed, truncated; peristoma oblong, retuse in front. Eyes bare, almost round. Labrum narrow, notched at the tip. Lingua acute, as long as the labrum. Maxillæ subulate, half the length of the palpi. Palpi filiform, curved, clavate towards the tips, as long as the labrum. Labium long, semicylindrical, hairy and bilobed at the tip. Antennæ 5-jointed, porrect, nutant, seated on a tubercle of the fore front, *separated at the base, jointly shorter than the breadth of the head*; first and second joints small; second larger than the first; third almost elliptical; fourth very short, seated on the base of the third; fifth setiform, *bare or pubescent.* Thorax oblong, pubescent, somewhat widened in the middle; *scutellum* semicircular, *somewhat convex; margin undefined.* Wings twice the length of the abdomen, lanceolate, finely pubescent, incumbent and parallel in repose; *discal areolet diverging from the posterior margin; subapical areolet entire; axillary lobe distinct; subcostal and radial veins ending separately in the margin; transverse præbrachial vein palced before the middle of the discal areolet.* Halteres uncovered. Abdomen oval, convex, pubescent. Legs simple; hind legs somewhat longer than the anterior; hind femora broad; hind tibiæ curved. *Male.* Eyes nearly contiguous. *Fem.* Eyes parted.

1. **bicolor,** Fln. syrph. 33. 2 (1816); Mg.! zw. iii. 262. 2. pl.

30. f. 6; Mq.; Lw.; Ztt. Testacea, antennis luteis, *thoracis disco cinereo, alis limpidis,* abdominis segmentorum marginibus posticis nigricantibus, pedibus fulvis. Long. 4; alar. 8 lin.

Testaceous. Peristoma very prominent. Mouth piceous. Antennæ luteous; fifth joint pubescent, black, tawny at the base. Disc of the thorax grey above and partly grey beneath. Wings colourless; veins black, tawny towards the base. Halteres pale lemon-colour. Hind borders of the abdominal segments blackish. Legs tawny; tarsi black, ferruginous at the base.

Not common. (E. S. I.)

2. **conica,** Pz.! fn. lx. 20 (1815?); Mg.; Mq. — *dorsata*? Ztt. *Testacea, alis subcinereis, abdominis segmentorum marginibus posticis nigris.* Long. 4; alar. 8 lin.

Testaceous. Fourth joint of the antennæ black. Wings slightly grey; hind borders of the abdominal segments black. Tarsi brown.

Rare. In the British Museum. (E.)

Genus XXIII. **RHINGIA.**

RHINGIA, Fb. s. i. ii. 460 (1781); Ll.; Pz.; Fln.; Mg.; St. F. et Srv.; Mq.; Lw.; Ztt.; Ct.; Rdn. *Conops* p., L.; Shr. *Musca* p., Dg. *Stomoxys* p., Gm.

Epistoma productum, porrectum, conicum, capitis posterioris longitudine. Antennæ capitis latitudine conjunctim breviores; articulus tertius dorsalis; quintus pubescens. Alæ areola subapicali integra, lobo axillari distincto, venis subcostali et radiali ad marginem disjunctis, vena transversa præbrachiali ante areolæ discalis medium locata.

Head almost semicircular, somewhat compressed in front; *epistoma* slightly impressed, *drawn out into a horizontal cone, as long as the rest of the head*; peristoma very narrow. Eyes bare; all the facets small. Labrum narrow, long, thin, curved, trilobed at the tip. Lingua thin, acute, transparent, setiform, almost as long as the labrum. Maxillæ slender, setiform, acute, as long as the lingua, longer than the palpi. Palpi filiform, somewhat clavate and hairy at the tips, half the length of the labrum. Labium semicylindrical. *Antennæ* 5-jointed, porrect, nutant, *jointly shorter than the breadth of the head,* seated on the epistoma; first and second joints of equal length; first small; second larger, cyathiform; third conical; fourth very short, *seated on the base of the third*; fifth *pubescent,* setiform. Thorax convex, pubescent; scutellum semicircular. Wings lanceolate, finely pubescent, incumbent and parallel in repose, extending beyond the abdomen; *subapical areolet entire; axillary lobe distinct; subcostal and radial veins ending separately in the margin; transverse præbrachial vein placed before the*

middle of the discal areolet. Halteres half-covered. Abdomen oval, pubescent, slightly convex. Legs slender; hind metatarsi dilated. *Male.* Eyes contiguous. *Fem.* Eyes parted.

1. **rostrata,** L. s. n. ii. 1004. 1 (1767); Dg.; Fb.; Shr.; Gm.; Pz.; Fln.; Mg.; Mq.; Lw.; Ztt.—*campestris*, Mg.; Mq.; Ct. ! b. e. 182. Nigro-ænea, capite antico scutello abdomine pedibusque pallidis, thorace cinereo-quinquevittato, alis subcinereis. Long. $3\frac{1}{2}$–$4\frac{1}{2}$; alar. 7–10 lin.

Black. Head tawny in front. Antennæ pale red, seated on a tubercle. Thorax æneous-black, clothed with black hairs. Scutellum dark tawny, clothed with yellow hairs. Wings pale grey, with five cinereous stripes, which are most distinct in the female, with a tawny tinge at the base and along the fore border as far as the stigma, which is tawny. Halteres tawny, their knobs partly brown. Abdomen testaceous, generally black at the base, the tip, and along each side, and with a black dorsal band, which is frequently indistinct towards the tip; hind borders of the segments more or less dark. Legs tawny; a black band round each tibia, a black stripe on each of the anterior tarsi; hind tarsi black.

Generally distributed. (E. S. I.)

Genus XXIV. **CHRYSOCLAMIS.**

CHRYSOCLAMIS, Rondani, MSS.* *Conops* p., Spl. *Syrphus* p., Fb.; Pz.; Rsi.; Mg.; St. F. et Srv.; Ct. *Musca* p., Gm. *Elophilus* p., Ll. *Eristalis* p., Fb.; Ll.; Fln.; Ztt. *Cheilosia* p., Mq. *Ferdinandia*, Rdn.

Epistoma tuberculatum. Antennæ breves, capitis latitudine conjunctim breviores, articulo tertio suborbiculato, articulo quarto dorsali, quinto nudo. Thorax pubescens, setis aspersus. Scutellum convexiusculum, margine non bene determinato. Alæ areola subapicali integra, basi ad apicem gradatim latescente, lobo axillari distincto, venis subcostali et radiali ad marginem disjunctis, vena transversa præbrachiali areolæ discali mediæ inserta. Pedes simplices.

Maxillæ very short. Palpi longer than the labrum. *Antennæ jointly shorter than the breadth of the head; fourth joint dorsal or seated on the back of the third; fifth naked or pubescent. Thorax pubescent, with some stiff bristles among the pubescence. Scutellum somewhat convex, with an undefined edge. Wings with the subapical areolet entire, gradually widened from the base outwards; axillary lobe distinct; sub-*

* Substituted for *Ferdinandia*, Rdn., which offends against a canon: see L. Phil. Bot., pp. 236, 237.

costal and radial veins ending separately in the margin; transverse præbrachial vein placed at or beyond the middle of the discal areolet.

1. **cuprea,** Spl. e. c. (1763); Rdn.—*ruficornis,* Fb.; Rsi.; Gm.; Pz.! fn. lxxvii. 20; Ll.; Fln.; Mg.; Mq.; Ztt.; Gmtl. *Nigricans, epistomate luteo immaculato, antennarum articulo tertio testaceo, thorace vittis quatuor cinereis, abdomine æneo, epistomate scutello antennarum articulo tertio pedibusque luteis, alis fusco-bimaculatis.* Long. 4–5; alar. 9–12 lin.

Black. Head tawny; crown black. Proboscis piceous. Antennæ red, black above; fourth joint black. Thorax with four grey stripes, beset on each side with black bristles; scutellum greyish-tawny. Wings pale grey, slightly tawny along the fore border, with two brown spots on the veinlets in the disc. Halteres yellow, with brown knobs. Abdomen æneous, thickly clothed with short tawny hairs. Legs tawny.

Generally distributed. The larva feeds on fungi. (E. S. I.)

Genus XXV. **CHEILOSIA.**

CHEILOSIA, Mg.; Lw.; Rdn. *Musca* p., L.; Dg.; Gm. *Syrphus* p., Fb. s. i.; Ll.; Pz.; Fln.; Mg.; St. F. et Srv. *Eristalis* p., Fb. s. a.; Ll.; Ztt. *Milesia* p., Fb. s. a. *Conops* p., Spl.

Frons cribrata vel canaliculata. Epistoma vix elongatum, ad os prominens. Antennæ capitis latitudine conjunctim breviores, basi disjunctæ; articulus quartus dorsalis, quintus nudus vel pubescens. Alæ areolis discali et subapicali margine posteriore fere æqualiter remotis et illi parallelis, areola subapicali integra, lobo axillari distincto, venis subcostali et radiali ad marginem disjunctis, vena transversa præbrachiali ante areolæ discalis medium locata. Abdomen segmentis 5 (*vel* 6) *tantum conspicuis.*

Head semicircular; *front pitted or channelled*; face concave; *epistoma but little elongated horizontally,* a little compressed beneath the antennæ, with a slight tubercle above the peristoma, *protuberant towards the mouth,* notched in front. Peristoma oval. Eyes hairy. Labrum long, stout, terminating in two lobes which have a spine between them. Lingua attenuate, acute, shorter than the labrum. Maxillæ slender, curved, nearly as long as the lingua. Palpi slender, nearly linear, pubescent, slightly pilose, rounded at the tips, as long as the labrum. Labium large, rather long. *Antennæ* 5-jointed, *jointly shorter than the breadth of the head, separated at the base,* seated on a slight projection in front; first and second joints bristly; first long, clavate, obliquely truncate; second subcyathiform, shorter and broader than the first; third large, elliptical, velvety; fourth very minute, *seated on the third near the base*; fifth setiform, *pubescent,* bare at the tip, of moderate

length. Thorax oval, convex, hairy; scutellum semicircular. Wings lanceolate, finely pubescent, incumbent and parallel in repose; *discal and subapical areolets nearly equidistant from, and parallel to, the posterior margin; subapical areolet entire; axillary lobe distinct; subcostal and radial veins ending separately in the margin; transverse præbrachial vein placed before the middle of the discal areolet.* Halteres uncovered. *Abdomen with only five or six segments apparent.* Legs slender; hind legs longer than the anterior; anterior femora a little thickened at the base; tibiæ slightly curved; hind tarsi long.

The *Cheilosiæ* are generally of rather large size; they frequent meadows and woods. The species may be thus grouped:—

a. Wings spotted. Species 1, 2.
a a. Wings unspotted.
  b. Abdomen unspotted.
    c. Body very hairy. Species 3–5.
    c c. Body slightly hairy. Species 6–16.
  b b. Abdomen spotted. Species 17.

1. **lucorum,** L. fn. ii. 1803 (1761); Fb.; Fln.; Mg.; Mq.; Ztt.; Lw.; Ct.! b. e. 753; St.! ill. 47. 1.—*præcincta,* Spl.; fig. Hrs. xxiv. 28. Nigro-cinerea, scutello fulvo, alis macula dimidiata fusca, *abdomine basi flavo.* Long. 5; alar. 12 lin.

Black. Head tawny on the crown, whitish with a black stripe in front, clothed with tawny hairs and with white hairs beneath. Thorax dark green, clothed with ferruginous hairs; scutellum tawny. Wings colourless, with a very large brown spot extending from the fore border to the disc. Alulæ grey. Halteres brown. *Abdomen yellow towards the base,* chalybeous towards the tip, clothed with hoary hairs and in the middle with black hairs. Femora at the tips and tibiæ towards the base yellow.

Generally distributed; inhabits woods. (E. S. I.)

2. **œstracea,** L. s. n. ii. 985. 34 (1767); Dg.; Fb.; Ll.; Fln.; Mg.; Mq.; Lw.; Ztt.—*rupestris,* Pz.! fn. lix. 13. *Nigro-ænea,* alis macula dimidiata fusca. Long. 5–5½; alar. 11–12 lin.

Black, clothed with short pale tawny hairs. Antennæ pitchy; first and second joints ferruginous; fourth black. Thorax æneous-black, clothed with long hoary hairs beneath and on the scutellum. Wings pale grey, colourless towards the base, with a large pale brown spot extending from near the middle of the fore border to the disc. Alulæ white. Halteres yellow, with brown tips. *Abdomen clothed with hoary hairs at the base, with black hairs in the middle, and with luteous hairs at the tip.* Legs black; tibiæ towards the base and tarsi beneath ferruginous.

Generally distributed. (E. S. I.)

3. **grossa,** Fln. syrph. 53. 7 (1816); Mg.; Mq.; Ztt. Nigro-

ænea fulvo-hirta, antennis nigris, alis sublimpidis ad costam subfulvis, ano nigro-hirto, tibiis fulvis. Long. 5–6; alar. 10–12 lin.

Æneous-black, thickly clothed with tawny hairs. Antennæ black. Wings almost colourless, with a slight tawny tinge along the fore border. Alulæ white. Halteres tawny. *Tip of the abdomen clothed with black hairs.* Legs black; tibiæ tawny.

Not common; appears in the spring. (E.)

4. **chrysocoma,** Mg. zw. iii. 280. 4 (1822); Mq.; Ztt.? Nigro-ænea *omnino fulvo-hirta,* antennis nigris, alis sublimpidis ad costam subfulvis, tibiis fulvis. Long. 5½; alar. 11 lin.

Æneous-black, thickly *wholly clothed with tawny hairs.* Antennæ black. Wings almost colourless, with a slight tawny tinge along the fore border. Alulæ white. Halteres yellow, with brown knobs. Legs black; tarsi beneath and tibiæ tawny.

Rare. In the collection of the Entomological Club. (E.)

5. **flavipes,** Pz.! Fn. liv. 10; Mg. (1822); Ztt. Nigro-ænea fulvo-hirta, *antennis ferrugineis,* alis subcinereis, *pedibus fulvis,* metatarsis posticis basi nigris. Long. 5; alar. 11 lin.

Æneous-black, clothed with tawny hairs. *Antennæ ferruginous.* Wings pale grey, very slightly clouded about the veinlets. Alulæ white. Halteres yellow. *Legs tawny*; hind tarsi black towards the base.

Not common. (E.)

6. **means,** Fb. e. s. sppl. 562. 63. 64 (1794); Mg.; Mq.; Lw.; Ztt. Nigro-ænea, *antennis ferrugineis,* alis cinereis ad costam fulvis, *pedibus fulvis, femoribus nigris, tibiis subfasciatis.* Long. 4–4½; alar. 9–10 lin.

Æneous-black, clothed with pale tawny hairs. *Antennæ bright ferruginous*; fourth joint black. Wings grey, tawny along the fore border. Alulæ white. Halteres yellow, with ferruginous knobs. *Legs tawny; femora black; tibiæ with indistinct bands.*

Not common. (E. S.)

7. **chlorus,** Mg. zw. iii. 284. 11 (1822); Mq.; Ztt. Nigro-ænea, *antennis ferrugineis,* alis cinereis ad costam subfulvis, *pedibus nigris, tibiis fulvis nigro-cinctis.*

Æneous-black, clothed with pale tawny hairs. *Antennæ ferruginous.* Scutellum transversely foveolated. Wings grey, tinged with tawny beneath the fore border. Alulæ slightly greyish. Halteres tawny. *Legs black; tibiæ tawny, with a black band. Fem.* Front trisulcate.

Not common. (E. S. I.)

8. **variabilis,** Pz.! fn. lx. 10; Ll. (1810); Fln.; Mg.; Mq.; Lw.; Ztt.—*atra,* Fb.—*nigrita,* Fb. *Cyaneo-nigra, albido-hirta, antennis nigro-piceis,* alis cinereis ad costam subfuscis, *pedibus nigris.* Long. 3–5; alar. 7–11 lin.

Bluish-black, clothed with short whitish hairs. Antennæ black; third joint piceous. Wings grey, brownish beneath the fore border. Alulæ white. Halteres yellow; sometimes with a brown spot on the knob. *Legs black*; tarsi clothed beneath with ferruginous down.

Generally distributed. (E. S. I.)

9. **nigrina,** Mg. zw. iii. 282. 7 (1822). *Nigra nigro-hirta,* alis cinereis, *abdomine albo-hirto.* Long. 5; alar. 10 lin.

Black, clothed with black hairs. Eyes hairy. Wings grey. Halteres tawny, their knobs mostly black. *Abdomen clothed with white hairs.*

Rare. In the collections of the Entomological Club and of Mr. Stephens. (E.)

10. **albitarsis,** Mg. zw. iii. 290. 22 (1822); Mq. Atra, abdomine albido-hirto, *pedibus piceis, tarsis pallidis.* Long. 3½; alar. 9 lin.

Male, var.? Deep black, clothed with black hairs. Eyes hairy. Wings almost colourless. Alulæ white. Halteres pale yellow. Abdomen chalybeous along each side and at the tip, clothed on each side with rather long whitish hairs. *Legs piceous; second, third, and fourth joints of the fore tarsi yellow, of the posterior tarsi ferruginous.*

Rare. In the collection of the Entomological Club. (E. S. I.)

11. **mutabilis,** Fln. syrph. 54. 10 (1816); Mg.; Mg.; Ztt. *Nigra albido-hirta, antennis piceis,* alis subcinereis ad costam subfulvis, abdomine nigro-æneo, *tibiis basi fulvis.* Long. 4–4½; alar. 8–9 lin.

Black, clothed with whitish hairs. Antennæ piceous. Wings pale grey, with a very slight tawny tinge beneath the fore border. Alulæ white. Halteres pale yellow. Abdomen æneous-black. *Tibiæ tawny towards the base.*

Generally distributed. (E. S. I.)

12. **scutellata,** Fln. syrph. 55. 13 (1816); Mg.! zw. iii. pl. 30. f. 29, 30; Mq.; Ztt. Nigro-ænea, *antennis ferrugineis, scutelli margine postico fulvo,* alis subcinereis, abdomine nigro, pedibus fulvis piceo-cinctis. Long. 3½–4; alar. 7–8 lin.

Æneous-black, clothed with pale tawny hairs. *Antennæ bright ferruginous*; fourth joint black. *Scutellum tawny along the hind border.* Wings pale grey. Alulæ white. Halteres yellow. Abdomen black. Legs tawny; femora and tibiæ with broad piceous bands; tarsi partly piceous.

Generally distributed. (E. S.)

13. **nigripes,** Mg. zw. iii. 282. 8 (1822); Mq. *Nigra albido-hirta, antennis piceis, alis cinereis basi obscurioribus, abdomine chalybeo.* Long. 3–3½; alar. 6–7 lin.

Black, clothed with short whitish hairs. *Antennæ piceous. Wings grey, darker towards the base.* Alulæ white. Halteres yellow. *Abdomen chalybeous.*

Not common. (E.)

14. **chalybeata,** Mgrle.; Mg. zw. iii. 294. 32 (1822). *Nigra albido-hirta, antennis piceis,* alis subcinereis, *abdomine subchalybeo, tibiis fulvo-piceis.* Long. $2\frac{1}{2}$–3; alar. 5–6 lin.

Black, thinly clothed with short whitish hairs. Antennæ piceous. Wings slightly tinged with grey. Alulæ white. Halteres yellow. *Abdomen slightly chalybeous.* Legs black; knees tawny; *tibiæ piceous, tawny towards the base, or tawny with a piceous band. Male.* Abdomen more chalybeous than that of the female. Legs paler.

Generally distributed. (E. S.)

15. **vulpinus,** Mg. zw. iii. 292. 27 (1822). *Nigra, antennis piceis, thorace fusco-hirto, alis cinereis basi et ad costam subfuscis, abdomine ferrugineo-hirto.* Long. $4\frac{1}{2}$; alar. 9 lin.

Black. Head hoary in front. Eyes hairy. *Antennæ piceous. Thorax clothed with short brown hairs. Wings grey, brownish at the base and along two-thirds of the costa.* Halteres tawny with piceous knobs. *Abdomen clothed with ferruginous hairs.* Knees ferruginous.

Rare. In Mr. Stephens's collection. (E.)

16. **funeralis,** Mg. zw. iii. 292. 26 (1822). *Nigra nigro-hirta, antennis piceis,* alis cinereis, *abdomine albido-hirto, tibiis basi ferrugineis.* Long. 3; alar. 6 lin.

Black, clothed with black hairs. Eyes hairy. *Antennæ piceous.* Wings grey. Halteres brownish. *Abdomen clothed with whitish hairs. Tibiæ at the base* and knees *ferruginous.*

Rare. In Mr. Stephens's collection. (E.)

17. **maculata,** Fln. syrph. 52. 6 (1816); Mg.; Mq.; Ztt. Nigra, antennis luteis, alis cinereis, abdomine maculis sex cinereis. Long. 4; alar. 8 lin.

Black, slightly shining, thinly clothed with short pale tawny hairs. Antennæ luteous, black at the base and at the tips. Wings dark grey. Alulæ white. Halteres tawny, with brown knobs. Abdomen with three large transverse grey spots on each side, the hind pair almost united.

Not common; frequents the flowers of the Wild Garlic. (E.S.I.)

Genus XXVI. **SYRPHUS.**

Musca p., L.; Dg.; Mlr.; Shr.; Gm. *Syrphus* p., Fb. s. i.; Ll.; Mg.; St. F. et Srv.; Mq.; Rdn. *Conops* p., Spl. *Eristalis* p., Fb. s. a. *Elophilus* p., Ll. *Scæva* p., Fb. s. a.; Pz.; Fln. *Scæva,* Ct.; Ztt. *Platycheirus* (incl.), St. F. et Srv. *Didea* (incl.), Mq. *Enica* (incl.), Mg. *Syrphus, Spazigaster,* et *Lasiopthicus,* Rdn.

Frons lævis, convexa. Epistoma vix elongatum, ad os prominens. Antennæ capitis latitudine conjunctim breviores, basi disjunctæ; articulus

quartus dorsalis, quintus nudus. Thoracis latera immaculata. Alæ areolis discali et subapicali margine posteriore fere æqualiter remotis et illi parallelis, areola subapicali integra, lobo axillari distincto, venis subcostali et radiali ad marginem disjunctis, vena transversa præbrachiali ante areolæ discalis medium inserta. Abdomen segmentis 5 (*vel* 6) *tantum conspicuis.*

Head semicircular; *front even, convex; epistoma but little elongated horizontally,* a little compressed beneath the antennæ, with some slight tubercles above the peristoma, *protuberant towards the mouth*; peristoma oblong, straitened in front, directed upwards. Eyes bare or hairy. Labrum curved, notched at the tip, much shorter than the labium. Lingua pointed, nearly as long as the labium. Maxillæ and palpi of various length. Labium rather long, semicylindrical. Antennæ 5-jointed, *jointly shorter than the breadth of the head,* seated a little above the middle of the face, porrect, nutant, *separated at the base*; first and second joints small, bristly; first clavate; second short, transverse, subcyathiform, oblique; third large, oval; fourth very small, *seated on the base of the third*; fifth setiform, *bare. Thorax* oval, convex, hairy; *sides immaculate*; scutellum semicircular. Wings lanceolate, finely pubescent, incumbent and parallel in repose; *discal and subapical areolets nearly equidistant from and parallel to the posterior margin; subapical areolet entire; axillary lobe distinct; subcostal and radial veins ending separately in the margin; transverse præbrachial vein placed before the middle of the discal areolet.* Halteres uncovered. *Abdomen* depressed, elliptical or linear, *with only five* (*or six*) *segments apparent.* Legs slender. *Male.* Eyes contiguous. *Fem.* Eyes remote.

The flight of the *Syrphi* is swift; they often hover motionless in the air, and then dart away. The larvæ of many species feed on Aphides; they are oblong, depressed, narrow in front, broad behind; the mouth is armed with a trident or three points, on which they transfix their prey, and then raise it in the air, and devour it. The larva of *S. pyrastri* feeds on the Aphis of the Rose; it has six rows of tubercular feet, and seven feet in each row.

"The dorsal vessel of the fly (e. g., *S. pyrastri*), instead of the usual form which it had in the larva, assumes the shape of a flask, having its long end directed towards the thorax; the pulsation and transmission of the fluid in it is manifest. This vessel extends in length from the junction of the trunk with the abdomen to about the termination of the second segment. The included fluid is propelled at intervals by drops, first from the wide end towards the trunk, and then in the contrary direction. It is conjectured that the neck of this vessel is composed of two or more approximated tubes, and that the blood is conveyed forward by the outward ones, and backward by the intermediate one; also

that there is a kind of secondary heart, at the extremity next the thorax, for the purpose of causing the reflux. This structure has been observed in many of the genera allied to *Sueva*, and it is supposed to be also widely diffused among the *Muscidæ*."

The species may be grouped thus :—

a. Abdomen oblong-oval, with straight or arched yellow bands. Legs simple.
  b. Wings with the fourth longitudinal vein curved in the disc.
    c. Eyes bare. Species 1.
    c c. Eyes hairy. Species 2.
  b b. Wings with the fourth longitudinal vein not or hardly curved.
    d. Eyes bare.
      e. Scutellum pale. Head yellow.
        f. Bands of the abdomen simple.
          g. Bands of the abdomen straight. Species 3–6.
          g g. Bands of the abdomen arched. Species 7–9.
        f f. Bands of the abdomen double. Species 10.
      e e. Scutellum æneous. Species 11.
    d d. Eyes hairy.
      h. Bands of the abdomen straight.
        i. Intermediate bands of the abdomen entire. Species 12, 13.
        i i. All the bands of the abdomen interrupted. Species 14–17.
      h h. Bands of the abdomen arched or lunulate. Species 18.
a a. Abdomen narrow, linear; the yellow bands always straight.
  k. Scutellum yellow. Epistoma white or yellow.
    l. Bands of the abdomen interrupted. Species 19, 20.
    l l. Intermediate bands of the abdomen entire. Species 21, 22.
  k k. Scutellum and epistoma æneous.
    m. Tarsi of the male dilated. Fore tarsi of the female short, serrated.
      n. Abdomen with interrupted bands or quadrate spots.
        o. Epistoma long, conical. Species 23.
        o o. Epistoma tuberculate, not long nor conical. Species 24–28.
      n n. Abdomen ferruginous-red. Species 29.
    m m. Tarsi simple in both sexes. Species 30–33.

1. **alneti,** Fln. syrph. 38. 4 (1816); Mg.; Mq.; Ztt.—*glaucius*, Pz.! fn. lix. 17. Nigra, scutello fulvo, alis subcinereis, abdomine flavo-quinquefasciato, pedibus luteis, femoribus basi nigris, tibiis posticis piceo-cinctis. Long. 6; alar. 12 lin.

Black, clothed with tawny hairs. Vertex bluish-black; epistoma yellow, with a black scapula. Scutellum dull tawny. Wings slightly grey, brownish at the base and along the costa; stigma dark brown.

Abdomen with five yellow bands; first interrupted; second and third half interrupted or notched on the hind border; fourth and fifth entire. Legs luteous; femora black towards the base; hind tibiæ with piceous bands; tarsi piceous towards the tips.

Very rare. In Mr. Stephens's and Mr. Desvignes' collections. (E. I.)

2. **pyrastri,** L. s. n. ii. 987. 51 (1767); Fb.; Shr.; Gm.; Rsi.; Ll.; Fln.; Mg.; Mq.; Lw.; Ztt.—*rosæ*, Dg.—*selenitica*, Mg.; Lw.; Ztt.—*unicolor*, Ct. ! b. e. 509. Nigro-cyaneus, scutello subfulvo, alis limpidis, abdomine albo- vel flavo-trifasciato, pedibus flavis femoribus basi nigris. Long. 5½–7; alar. 11–14 lin.

Blackish-blue, clothed with pale hairs. Head whitish, with a black stripe in front. Maxillæ more than twice the length of the palpi. Palpi cylindrical, obtuse, extremely short. Antennæ piceous, tawny at the base. Thorax with an indistinct tawny stripe on each side; scutellum dull tawny, more or less tinged with blue. Wings colourless. Alulæ white. Halteres luteous. Abdomen with three interrupted whitish or yellowish bands, which are sometimes, but rarely, wanting; hind borders of the fourth and fifth segments whitish. Legs yellow; femora black towards the base; hind femora black; tarsi ferruginous.

Generally distributed. (E. S. I.)

3. **grossulariæ,** Mg. zw. iii. 306. 48 (1822); Mq.; Lw.; Ztt. —*erratica*, L.—*ribesii*, var. *major*, Fln. Viridi-æneus, *antennis nigris, abdomine nigro fasciis quatuor rectis latis prima interrupta reliquis integris luteis*, pedibus luteis, *femoribus basi nigris*. Long. 6; alar. 13 lin.

Head yellow; vertex black; a triangular black spot about the ocelli. *Antennæ black*. Thorax æneous-green, clothed with tawny hairs, slightly tawny along each side; scutellum tawny. Wings colourless; stigma pale brown. Alulæ yellowish-white. Halteres yellow. *Abdomen* almost linear, black, clothed with black hairs, *adorned with four broad luteous bands, which are clothed with tawny hairs; first band interrupted, forming a triangular spot on each side; the other three entire, linear, and parallel.* Legs luteous; femora black at the base; anterior tarsi ferruginous, luteous at the base; hind tarsi brown, ferruginous at the base.

Rare. In Mr. Saunders's collection. (E. S. I.)

4. **ribesii,** L. s. n. ii. 987. 50 (1767); Dg.; Fb.; Shr.; Gm.; Ll.; Fln.; Mg.; Mq.; Ztt. Viridi-æneus, *antennis piceis subtus ferrugineis, abdomine nigro fasciis quatuor rectis subangustis prima interrupta secunda et tertia leviter emarginatis pedibusque luteis.* Long. 4½–6; alar. 9–12 lin.

Head yellow; vertex æneous-green. Maxillæ half the length of the palpi. Palpi half the length of the labrum. *Antennæ piceous, ferruginous beneath*, tawny at the base; fourth joint ferruginous. Thorax æneous-green, clothed with tawny hairs, sometimes with a tawny stripe

along each side; scutellum dingy yellow. Wings almost colourless; stigma lurid. Alulæ white. Halteres yellow, with luteous knobs. *Abdomen* fusiform, clothed with short black hairs, and on each side of the base with long pale hairs, *adorned with four luteous bands which are oblique at each end; first band interrupted; second and third notched on the hind borders; fourth with a black disc or wholly divided. Legs luteous*; anterior tarsi ferruginous; hind tarsi piceous.

Generally distributed. (E. S. I.)

5. **vitripennis,** Mgrle.; Mg. zw. iii. 308. 50 (1822); Mq.; Ztt.; Lw.—*confinis*, Ztt. Viridi-æneus, *antennis piceis subtus ferrugineis, abdomine nigro fasciis quatuor rectis subangustis prima interrupta secunda et tertia leviter emarginatis pedibusque luteis, femoribus basi nigris, tibiis posticis piceo-cinctis.* Long. 5–5½; alar. 10–11 lin.

Head luteous; vertex æneous. *Antennæ piceous, ferruginous beneath.* Thorax æneous-green; scutellum yellow, clothed with black hairs. Wings colourless; stigma pale brown. Alulæ yellowish-white. Halteres yellow. *Abdomen* black, fusiform, clothed with black hairs, *adorned with four luteous bands,* which are clothed with tawny hairs; *first band interrupted; second and third notched on the hind border,* oblique at each end; *fourth more or less divided by a narrow black band. Legs luteous; femora black at the base; hind femora black; hind tibiæ with piceous bands*; tarsi ferruginous; hind tarsi piceous.

Generally distributed. (E. S.)

6. **bifasciatus,** Fb. e. s. iv. 305. 101 (1781); Fln.; Mg.; Ahr.; Mq.; Lw.; Ztt.—*interruptus*, Gm. Viridi-æneus, antennis piceis subtus ferrugineis, *abdomine nigro fasciis duabus pedibusque luteis.* Long. 4½–5; alar. 10–11 lin.

Head yellow, with a black stripe above the peristoma; vertex æneous-green. Antennæ piceous, ferruginous beneath; fourth joint ferruginous towards the base. Thorax æneous-green; scutellum tawny with an æneous-green tinge. Wings colourless; stigma lurid. Alulæ white, with yellow borders. Halteres luteous. *Abdomen* black, fusiform, *adorned with two luteous bands; the first broad and interrupted; the second narrow and entire.* Legs luteous; hind tarsi brown.

Generally distributed. (E. S. I.)

7. **luniger,** Mg. zw. iii. 300. 40 (1822); Mq.; Ztt.—*arcuata* var., Fln. Viridi-æneus, *antennis nigris articulo tertio subtus ferrugineo,* abdomine nigro *fasciis tribus latis arcuatis interruptis pedibusque luteis,* femoribus basi nigris. Long. 5; alar. 10 lin.

Head yellow, with a short piceous stripe above the peristoma. *Antennæ black; third joint ferruginous beneath.* Thorax æneous-green; scutellum æneous-tawny. Wings pale grey; stigma pale brown. Alulæ whitish, with yellow borders. Halteres tawny. *Abdomen* fusiform, black, *adorned with three luteous spots on each side; the first pair less lunular than the second or the third; a ferruginous spot on each*

side at the tip; under side luteous with large quadrate black spots in the disc. Legs luteous; femora black at the base; tarsi ferruginous, with piceous tips; hind tarsi piceous, ferruginous at the base.

Not common. (E.)

8. **arcuatus,** Fln. syrph. 42. 11 (1816); Mg.; Mq.; Ztt. Viridi-æneus, *antennis piceis, abdomine nigro fasciis tribus angustis arcuatis interruptis flavis,* pedibus luteis femoribus basi nigris, tibiis piceo-cinctis. Long. 4–4½; alar. 9–10 lin.

Head luteous, with a black stripe above the peristoma; vertex æneous-green. *Antennæ piceous.* Thorax æneous-green; scutellum tawny. Wings pale grey; stigma brown. Alulæ white, with yellow borders. Halteres yellow. *Abdomen* fusiform, black, *adorned with three transverse yellow spots on each side; second and third pair lunular; hind border of the fourth segment yellow.* Legs luteous; femora sometimes more or less black; hind tibiæ with piceous bands.

Not rare. (E.)

9. **corollæ,** Fb. e. s. iv. 306. 106 (1792); Mg.; Mq.; Ztt.; Lw.—*pyrorum,* Shr.—*olitorius,* Fln. Viridi-æneus, *antennis fulvis apice et supra piceis, abdomine nigro fasciis quatuor latis, prima interrupta, secunda tertiaque emarginatis pedibusque luteis,* femoribus basi nigris. Long. 4–4½; alar. 8–9 lin.

Head yellow, with a short black stripe above the peristoma; vertex black. Maxillæ about one-third of the length of the labrum. Palpi as long as the maxillæ. *Antennæ tawny, piceous above and at the tips.* Thorax æneous-green, clothed with tawny hairs; scutellum tawny. Wings colourless; stigma brownish-tawny. Alulæ white. Halteres yellow. Abdomen elliptical, clothed with short black hairs, and on each side of the base with long whitish hairs, *adorned with four broad luteous bands; first band interrupted; second and third oblique on each side, notched on the hind borders; disc of the fourth sometimes black.* Legs luteous; femora black towards the base; tarsi ferruginous, brownish towards the tips.

Generally distributed. (E. S. I.)

10. **balteatus,** Dg. ins. vi. 52. 7 (1783); Mg.; Mq.; Lw.; Ztt.—*alternatus,* Shr.; Gf.; Gm.; Rsi.—*canabinus,* Gm.—*nectareus,* Fb.; Pz.! fn. lxxxii. 19; Fln. Æneus, antennis ferrugineis, thorace cano-subtrivittato, abdomine nigro fasciis quatuor latis lineola transversa nigra inscriptis luteis, pedibus fulvis. Long. 5–5½; alar. 11–12 lin.

Æneous. Head luteous in front. Antennæ ferruginous; third joint black above; fourth black. Thorax with three indistinct hoary stripes; scutellum dull tawny. Wings colourless; veins black; stigma and halteres tawny. Abdomen black, with four broad variable luteous bands, each including a narrow more or less distinct black band; first

band interrupted; fourth rarely interrupted. Legs tawny, rarely shaded with pale brown.

Generally distributed. (E. S. I.)

11. **hyalinatus,** Fln. syrph. 43. 13 (1816); Mg.; Mq.; Ztt. Nigro-cupreus, antennis piceis, alis subcinereis, abdomine nigro luteo-sexmaculato, pedibus piceis. Long. 5–5½; alar. 12–13 lin.

Cupreous-black. Head chalybeous in front. Antennæ piceous. Wings slightly grey; stigma lurid. Alulæ white, with yellow borders. Halteres yellow, with brown knobs. Abdomen fusiform, black, with three luteous spots on each side; the first pair of spots small; the second and third pair subquadrate, very large. Legs piceous.

Rare. In the collection of the Entomological Club. (E. S. I.)

12. **topiarius,** Mg. zw. iii. 305. 47 (1822); Ztt. Viridi-æneus, antennis piceis basi et subtus pallidis, *abdomine fasciis quatuor latis interruptis unaque integra pedibusque luteis.* Long. 4–4½; alar. 8–9 lin.

Head yellow, with a short black stripe above the peristoma; vertex æneous-green. Antennæ piceous, partly ferruginous beneath, tawny at the base. Thorax æneous-green, clothed with tawny hairs. Scutellum tawny, sometimes tinged with green. Wings almost colourless; stigma pale brown. Alulæ white. Halteres yellow. *Abdomen* fusiform, clothed with short black hairs, and on each side of the base with long pale hairs, *adorned with four broad luteous bands; first, second, and third bands interrupted; fourth entire, its disc most often black.* Legs luteous; tarsi darker. *Male.* Femora black towards the base. *Fem.* Hind femora very rarely black towards the base.

Generally distributed. (E. S. I.)

13. **tricinctus,** Fln. syrph. 41. 9 (1816); Mg.; Mq.; Ztt. Niger, *abdomine fasciis duabus, secunda interrupta, maculisque quatuor pedibusque flavis.* Long. 5; alar. 11 lin.

Black, clothed with pale hairs. Vertex bluish-black; epistoma with a broad yellow stripe on each side. Scutellum tawny. Wings colourless, slightly tawny at the base; stigma dark brown. Halteres yellow. *Abdomen with two yellow bands; the second interrupted; a yellow spot on each side of the disc near the base, and a yellow marginal spot on each side near the tip.* Legs yellow; femora black towards the base.

Rare. In Mr. Stephens's collection. (E. S.)

14. **glaucius,** L. fn. ii. 813 (1761); Spl.; Gm.; Ll.; Fln.; Ztt. —*nobilis,* Mg.—*leucozonius,* Ahr.! fn. ii. 25. *Fuscus,* antennis nigris, *thorace cano-subquadrivittato,* scutello luteo, *abdomine nigro fasciis tribus subinterruptis canis, pedibus fulvis, femoribus basi nigris.* Long. 5–6; alar. 11–12½ lin.

Brown. Head luteous. Antennæ black. *Thorax with four indistinct hoary stripes,* clothed with tawny hairs on each side in front. Scutellum luteous. Wings pale grey; veins black; stigma piceous.

Halteres yellow. *Abdomen black, with three half-interrupted hoary bands*; first broad; second and third narrow. *Legs tawny; femora black at the base; hind femora black with tawny tips*; hind tibiæ rarely encircled with black. *Fem.* Crown with a black stripe.

Not rare. (E. S. I.)

15. **laternarius,** Mlr. pr. 2040 (1776).—*glaucius*, Fb.; Mg.—*mutatus*, Ztt. *Niger, abdomine fasciis una lata fulva duabusque canis angustis.* Long. 4½–5; alar. 10–11 lin.

Black. Head hoary, yellow in front; disc of the crown æneous. Wings pale grey; veins black; stigma piceous. Halteres yellow. *Abdomen with three interrupted bands; first tawny, very broad; second and third hoary, narrow.* Legs black.

Not common. (S. I.)

16. **albostriatus,** Fln. syrph. 42. 10 (1816); Mg.; Mq.; Lw.; Ztt. Æneus, antennis fulvis apice fuscis, *thorace cano-bivittato, abdomine fasciis quatuor interruptis flavis, pedibus flavis, femoribus basi nigris.* Long. 4–4½; alar. 8–9 lin.

Body clothed with tawny hairs. Head yellow. Antennæ tawny, piceous towards the tips. *Thorax* æneous, *with two hoary stripes.* Scutellum æneous, tawny. Wings colourless, with a blackish-brown stigma. Alulæ white. Halteres luteous. *Abdomen with four interrupted yellow bands; the fourth forming only a small spot on each side;* hind borders of the fourth and fifth segments yellow. *Legs yellow; femora black towards the base*; hind tibiæ indistinctly banded with brown; hind tarsi brown above towards the tips.

Not rare. (E. S. I.)

17. **venustus,** Mg. zw. iii. 299. 38 (1822); Mq.; Ztt.—*solitaria*, Ztt. Viridi-æneus, antennis piceis subtus ferrugineis, *abdomine nigro fasciis quatuor interruptis pedibusque luteis, femoribus basi nigris.* Long. 4–5; alar. 8–10 lin.

Head luteous, with a short black stripe above the peristoma; vertex æneous-green. Antennæ piceous, ferruginous beneath; fourth joint ferruginous. Thorax æneous-green. Scutellum dull tawny. Wings colourless; stigma lurid. Alulæ yellowish-white. Halteres luteous. *Abdomen black,* fusiform, *adorned with four transverse luteous spots on each side*; hind borders of the fourth and fifth segments luteous; under side luteous with transverse black spots. Legs luteous; femora black at the base; tarsi ferruginous; hind tarsi piceous.

Generally distributed. (E.)

18. **lunulatus,** Mg. zw. iii. 299. 39 (1822); Mq.; Ztt. Æneus, *epistomate flavo nigro-vittato, antennis fulvis supra fuscis, scutello æneo-fusco, abdomine* nigro-æneo *lunulis bis tribus, pedibusque flavis,* femoribus basi nigris. Long. 4–5; alar. 9–12 lin.

Æneous. Vertex æneous-black; *epistoma yellow, with a black sca-*

pula. Antennæ tawny; third joint brown above. Scutellum æneous-brown. *Abdomen* æneous-black, *with three yellow lunules on each side; tip and legs yellow; femora black at the base.*

Not rare. (E. S.)

19. **umbellatarum,** Fb. e. s. iv. 307. 107 (1792); Fln.; Mg.; Mq.; Lw.; Ztt.—*amœnus,* Lw. Æneus, *antennis nigris, abdomine nigro fasciis tribus ad quinque interruptis pallidis, pedibus anterioribus fulvis posticis nigris.* Long. 4–4½; alar. 8–9 lin.

Æneous. Head tawny, yellow or whitish, with a black or æneous scapula in front. *Antennæ black.* Scutellum lurid. Wings slightly grey; stigma grey or pale brown. Halteres tawny or yellow. *Abdomen black, with three broad interrupted yellow or white bands; hind borders of the apical segments yellow or white.* Legs tawny; *anterior femora black towards the base; hind legs black*; knees tawny. *Var.* β. Third joint of the antennæ ferruginous beneath. Abdomen with four interrupted yellow bands; first and fourth bands narrow. *Var.* γ. Anterior tibiæ with black bands.

Rare. (E.)

20. **decorus,** Mg. zw. iii. 319. 66 (1822); Mq.; Ztt. Æneus, *antennis piceis, abdomine fasciis quatuor latis interruptis cyaneo-luteis, pedibus fulvis.* Long. 4; alar. 10 lin.

Æneous, clothed with pale hairs. Head tawny in front. *Antennæ piceous.* Scutellum tawny. Wings colourless; stigma tawny. Halteres luteous. *Abdomen with four broad interrupted luteous bands, which have a bluish tinge. Legs tawny.*

Not common. (E.)

21. **cinctus,** Fln. syrph. 45. 18 (1816); Mg.; Mq.; Ztt.—*cinctella,* Ztt. Æneus, *scutello fulvo-piloso,* abdomine fasciis quatuor pallidis secunda tertiaque integris. Long. 4–5; alar. 8–10 lin.

Æneous. Head tawny; vertex æneous; a triangular æneous spot above the antennæ; a dark tawny scapula above the peristoma. Antennæ ferruginous; third joint piceous above; fourth black. *Scutellum* tawny, *clothed with tawny hairs.* Wings slightly grey; stigma grey. Halteres tawny. Abdomen black, æneous at the base, adorned with four large subquadrate tawny spots, which are broadest on the outer side, their hind borders being oblique. Legs tawny. *Var.* β. Scutellum with an æneous tinge. Wings colourless; stigma pale brown. Abdomen with four tawny bands; first and fourth interrupted, and forming a triangle on each side; second and third of equal breadth; a tawny dot on each side at the tip. *Var.* γ. Head luteous. Antennæ piceous, ferruginous beneath and at the base. Halteres yellow. Abdomen with four broad luteous bands; first interrupted; second and third with a deep angular indentation on the hind border. Hind legs black; femora at the base and knees tawny. *Var.* δ. Head yellow.

Stigma pale tawny. Hind femora and hind tibiæ tawny, with pale brown bands.

Generally distributed. (E. I.)

22. **auricollis,** Mg. zw. iii. 318. 64 (1822); Mq.; Ztt. Æneus, *scutello fusco-piloso*, abdomine fasciis quatuor pallidis secunda tertiaque integris. Long. $4\frac{1}{2}$–5; alar. 9–10 lin.

Æneous. Head yellow, with a ferruginous scapula above the peristoma; vertex æneous. Antennæ ferruginous; third joint piceous above; fourth black. Thorax tawny on each side in front of the wings; *scutellum* tawny, slightly æneous on the disc, *clothed with brown hairs.* Wings slightly grey; veins black; stigma brown. Halteres yellow. Abdomen broad, with four tawny bands; first interrupted; second and third broad; fourth narrow. Legs tawny; hind legs black; hind femora tawny at the base; hind knees tawny. *Male.* Middle femora in some cases black at the base. *Var.* β. Head tawny; scapula dark tawny; an æneous triangular spot above the antennæ. Halteres tawny. Second abdominal band interrupted especially towards the hind border; third with an angular notch on the hind border. Hind legs tawny, slightly tinged with brown.

Not common. (E. S.)

23. **manicatus,** Mg. zw. iii. 336. 91 (1822); Mq.; Ztt. Æneus, antennis nigris, abdomine maculis bis quatuor subquadratis fulvis. Long. 4–$4\frac{1}{2}$; alar. 9–10 lin.

Æneous. Antennæ black. Wings slightly lurid. Halteres yellow. Abdomen with four subquadrate tawny spots on each side; first pair longer and narrower than the second or the third; fourth very small. Legs black; anterior tibiæ towards the base and knees tawny. *Male.* Fore metatarsi whitish. *Var.* β. Wings grey. Hind tibiæ tawny towards the base.

Generally distributed. (E. S. I.)

24. **peltatus,** Mg. zw. iii. 334. 89 (1822); Mq.; Lw.; Ztt.—*albimanus* var., Fln. Æneus, antennis nigris, *abdomine* nigro *maculis bis tribus subquadratis luteis, pedibus nigris; Mas. genubus flavis, metatarso antico dilatato albo, postico modice incrassato nigro; Fœm. pedibus anterioribus fulvis.* Long. $3\frac{1}{2}$–$4\frac{1}{2}$; alar. 8–9 lin.

Æneous. Antennæ black. Wings slightly grey; stigma pale brown. Halteres tawny. *Abdomen* black, æneous at the tip, *adorned on each side with subquadrate pale yellow spots. Legs tawny; hind legs black; femora at the base and knees tawny. Male. Abdomen with six spots. Fore metatarsi whitish. Fem. Abdomen with eight spots; fourth pair small, transverse. Var.* β. *Antennæ with the third joint ferruginous beneath.* Wings colourless; stigma pale grey. Halteres yellow. *Hind legs piceous. Var.* γ. *First pair of abdominal spots triangular.*

Generally distributed. (E. S. I.)

25. **clypeatus,** Mg. zw. iii. 335. 90 (1822); Mq.; Lw.; Ztt.—*albimanus* var., Fln. Æneus, antennis nigris, *abdomine* nigro *maculis bis tribus aut quatuor quadratis pedibusque fulvis, pedibus posticis plus minusve obscuris; Mas. tibiis tarsisque anticis dilatatis flavo-albidis.* Long. 3–4; alar. 6–8 lin.

Æneous. Antennæ black. Wings brown. Halteres tawny. *Abdomen* black, æneous at the base and at the tip, *with four pair of tawny spots; first, second, and third pair large, oblong-quadrate; fourth pair small. Legs tawny; hind legs black; tibiæ at the base and at the tips and knees tawny. Var.* β. Head and abdomen bluish-black. Wings slightly grey. *Abdomen with three pair of luteous spots; first pair small, nearly round. Anterior legs and bands of posterior legs luteous. Var.* γ. *Legs piceous; tibiæ towards the base and knees tawny. Var.* δ. Wings almost colourless. Halteres yellow. *Abdomen with four pair of large subquadrate tawny spots; fore angles of the first pair and hind angles of the other six truncate on the inner side. Hind femora and hind tibiæ and hind metatarsi with irregular piceous bands.*

Generally distributed. (E. S. I.)

26. **ferrugineus,** Mq. d. n. syrph. 81. 7 (1827); Mg.; Ztt. Æneus, antennis nigris, *abdomine fulvo linea dorsali media fasciisque angustissimis nigris, pedibus fulvis, metatarsis posticis nigris; Mas. tibiis anticis evidenter tarsisque nonnihil dilatatis.* Long. 4–4½; alar. 8–9 lin.

Æneous. Antennæ black. Wings slightly grey; veins black; stigma brown. Halteres tawny. *Abdomen* æneous, *with four large subquadrate tawny spots on each side; fore angles of the first pair, and hind angles of the other six, truncated; tip tawny. Legs tawny. Hind metatarsi black. Var.* β. *Hind femora, hind tibiæ, and hind metatarsi with irregular piceous bands.*

Rare. In the collection of the Entomological Club. (E.)

27. **scutatus,** Mg. zw. iii. 333. 88 (1822); Mq.; Lw.; Ztt.—*albimanus* var., Fln. Æneus, antennis nigris aut fuscis subtus luteis, *abdomine* nigro *bis tribus maculis quadratis flavidis (mas.) aut albidis (fœm.), pedibus anterioribus pallidis nigro-maculatis posticis nigris, femoribus* basi genubusque pallidis. Long. 3½–4½; alar. 7–9 lin.

Æneous. Antennæ black. Wings slightly grey. Stigma brown. Halteres tawny. *Abdomen* black, *æneous at the base and at the tip, with three large subquadrate spots on each side. Legs tawny; anterior femora piceous or black above; hind legs piceous, with tawny knees. Male. Abdominal spots yellowish. Fem. Abdominal spots whitish.*

Generally distributed. (E. S. I.)

28. **cyaneus,** Mlr. fn. 761 (1764).—*albimanus,* Fb.; Gm.; Mg.; Fln; Mq.; Lw.; Ztt. *Æneus aut subcærulescens, antennis nigris, abdomine maculis bis tribus aut quatuor subquadratis glaucis aut æneis, pedibus nigro-piceis, tibiis tarsisque anterioribus pallidis horum anticis mare dilatatis.* Long. 3½–4; alar. 7–8½ lin.

Maxillæ nearly as long as the palpi. Palpi half the length of the labium, subclavate. Antennæ black. *Male. Æneous.* Wings grey; stigma pale brown. Halteres piceous. *Abdomen* black, æneous at the tip, *adorned on each side with three æneous-tawny subtriangular spots whose hind sides are oblique. Legs piceous; knees and anterior tarsi pale tawny; fore femora tufted with black hairs at the base. Fem. Bluish-black. Wings almost colourless.* Halteres tawny. *Abdomen with three pair of glaucous spots on each side, and a glaucous band at the tip. Legs tawny; anterior tibiæ with piceous bands; hind legs black with tawny knees.*

Generally distributed. (E. S. I.)

29. **granditarsus,** Fstr. cent. i. 99 (1771).—*ocymi,* Fb.; Pz.! fn. lxxxii. 18; Fln.; Mg.; Mq.; Lw.; Ztt.—*brassicarius,* Pz.! fn. xx. 20.—*lobatus,* Mg. Æneus, antennis nigris, capite scutelloque nigro-cyaneis, abdomine rufo-ferrugineo basi apiceque æneo; *Mas.* alis fuscis, pedibus nigris; *Fœm.* alis cinereis, abdominis apice ferrugineo-bimaculato, pedibus fulvis. Long. 3½–4½; alar. 7–9 lin.

Æneous. Head bluish-black. Antennæ black. Scutellum more or less tinged with blue. Halteres tawny. Abdomen ferruginous-red, æneous at the base and towards the tip. *Male.* Wings brown. Legs black; tibiæ towards the base and anterior femora towards the tips tawny. *Fem.* Wings grey, their discs slightly clouded with brown. Abdomen with two large ferruginous spots on each side towards the tip. Legs tawny; anterior tarsi brown, tawny at the base; hind tibiæ encircled with black; hind tarsi brown.

Generally distributed. (E. S. I.)

30. **rosarum,** Fb. e. s. iv. 307. 109 (1792); Gm.; Pz.! fn. cviii. 14; Fln.; Mg.; Mq.; Lw.; Ztt.—*noctilucus,* Pz.! fn. lxxii. 24. —*mellinus,* Mg. Æneus, antennis nigris, capite scutelloque cyaneis, *alis fusco-cinereis, abdomine luteo interrupte fasciato,* pedibus piceis fulvo-cinctis; *Mas.* abdomine atro apice æneo; *Fœm.* abdomine basi apiceque cyaneo. Long. 4–4½; alar. 7–8 lin.

Æneous. Head dark blue. Maxillæ half the length of the palpi. Palpi half the length of the labium. Antennæ black. Scutellum dark blue. *Wings* grey, *brown from the middle of the costa to the disc.* Halteres luteous. *Abdomen with a luteous interrupted band at the base of the second segment.* Legs piceous; knees and parts adjoining and tarsi tawny. *Male.* Abdomen deep black, æneous at the tip. *Fem.* Abdomen blue at the base and with two blue bands towards the tip.

Generally distributed. (E. S. I.)

31. **mellinus,** L. s. n. ii. 988. 55 (1767); Dg.; Spl.; Fb.; Shr.; Ll.; Fln.; Ztt.—*mellarius*? Mg.—*melliturgus*? Mg. *Æneus,* antennis nigris subtus ferrugineis, alis subcinereis, *abdomine nigro maculis bis quatuor subquadratis flavis,* pedibus fulvis aut piceis. Long. 4½; alar. 8 lin.

Æneous. Antennæ black; third joint ferruginous beneath. Wings

slightly grey; veins black; stigma brown. Halteres tawny. *Abdomen black*, æneous at the tip, *adorned with four pair of large subquadrate yellow spots, whose hind sides are slightly oblique*; fourth pair smaller than the others. Legs tawny; hind legs black; hind femora and hind tibiæ tawny at the base. *Var.* β. Head slightly tawny on each side in front; first pair of abdominal spots almost triangular; fourth transverse. Legs piceous.

Generally distributed. (E. S. I.)

32. **scalaris,** Fb. e. s. iv. 108. 312 (1792); Pz.! fn. xlv. 20. —*gracilis*, Mg. zw. iii. 228. 80 (1822); Ll.; Mg.; Ztt.—*mellinus* var., Fln. Æneus, antennis fulvis aut piceis, alis subcinereis, *abdomine nigro maculis bis quatuor subtrigonis fulvis*, pedibus fulvis, tibiis tarsisque posticis piceo-cinctis. Long. 3–4; alar. 6–8 lin.

Æneous. Antennæ tawny or piceous. Wings slightly grey; stigma grey. Halteres tawny. *Abdomen black*, æneous at the tip, *with four pair of tawny spots; first pair nearly round; second and third pair subtriangular, slightly undulating on the outer side; fourth pair transverse.* Legs tawny; hind tibiæ and hind tarsi with piceous bands.

Generally distributed. (E. S. I.)

33. **concolor,** n. *Æneo-viridis*, antennis nigris articulo tertio subtus ferrugineo, alis limpidis, *abdomine maculis sex subquadratis vix conspicuis canis*, pedibus fulvis. Long. 3½; alar. 7 lin.

Æneous-green. Antennæ black; third joint ferruginous beneath. Wings colourless. Halteres tawny. Abdomen with three large subquadrate very indistinct hoary spots on each side. Legs tawny.

Rare. In the collection of the Entomological Club. (E.)

Genus XXVII. **DOROS.**

Doros, Mg.; Mq. d. i. 5 (1834); Ztt.; Rdn. *Musca* p., L.; Dg.; Shll.; Shf.; Shr.; Gf.; Gm. *Syrphus* p., Fb.; Pz.; Ll.; Mg. *Mulio* p., Fb. *Milesia* p., Fb. *Eristalis* p., Fb. *Scæva* p., Fln. *Baccha* p., St. F. et Srv.

Frons lævis, convexa. Epistoma vix elongatum, ad os prominens. Antennæ capitis latitudine conjunctim breviores, basi disjunctæ; articulus quartus dorsalis; quintus pubescens. Thoracis latera flavomaculata. Alæ areolis discali et subapicali margine posteriore fere æqualiter remotis et parallelis, areola subapicali integra, lobo axillari distincto, venis subcostali et radiali ad marginem disjunctis, vena transversa præbrachiali ante areolæ discalis medium locata. Abdomine segmentis 5 (*vel* 6) *tantum conspicuis.*

Head semicircular; front even, convex; epistoma *but little elongated horizontally*, a little compressed beneath the antennæ, with some slight tubercles above the peristoma, *protuberant towards the mouth.*

Peristoma oblong, straitened in front, directed upwards. Eyes bare or hairy. Labrum curved, notched at the tip. Lingua acute, as long as the labrum. Maxillæ as long as the palpi. Palpi hardly one-fourth of the length of the labrum. Labium rather long, semicylindrical. Antennæ 5-jointed, porrect, nutant, *jointly shorter than the breadth of the head, separated at the base*; first and second joints small; third round or oblong; fourth very small, *seated on the base of the third*; fifth setiform, *pubescent*. *Thorax* oval, convex, hairy; *sides variegated with yellow*; scutellum semicircular. Wings lanceolate, finely pubescent, incumbent and parallel in repose; *discal and subapical areolets nearly equidistant from and parallel to the posterior margin; subapical areolet entire; axillary lobe distinct; subcostal and radial veins ending separately in the margin; transverse præbrachial vein placed before the middle of the discal areolet*. Alulæ small. Halteres uncovered. Abdomen depressed, *with only five (or six) segments apparent*. Legs slender. *Male*. Front distinctly convex. Eyes connected. *Fem*. Front slightly convex. Eyes remote.

1. **conopseus,** Fb. s. i. ii. 429. 38 (1781); Gm.; Ll.; Fln.; Mg.; Mq.; Ztt.—*conopsoides*, Mg. kl.—*coarctatus*, Pz.! fn. xlv. 22. Niger flavo-vittatus, antennis piceis, scutello fulvo, alis sublimpidis ad costam fuscis, *abdomine* flavo-fasciato *basi coarctato cylindrico*, pedibus luteis, femoribus basi nigris. Long. 7; alar. 14 lin.

Black. Head with a yellow stripe on each side of the crown and of the front. Antennæ pitchy, black at the base. Thorax with a yellow stripe on each side; scutellum tawny. Wings almost colourless, brown along the fore border. Halteres tawny. *Abdomen coarctate and cylindrical at the base*, with three yellow bands; the third ridged in the middle, prominent in front; a very oblique short yellow stripe on each side near the base. Legs luteous; femora black towards the base; a brown, sometimes indistinct band on each tibia.

Rare. (E.)

2. **citrofasciatus,** Dg. i. vi. 118. 9.—*festivus*, Shr.; Fb.; Rsi.; Ll.; Fln.; Mg.; Mq.; Ztt.—*vespiformis*, Gf. ent. ii. 479.—*arcuatus*, Dnv.; Hrs. xv. 17. Niger, thoracis lateribus scutelloque flavis, alis subcinereis, abdomine flavo-fasciato, *pedibus luteis*. Long. 5–5½; alar. 10–11 lin.

Black. Head yellow. Antennæ luteous. Thorax with a yellow stripe on each side; scutellum yellow, brownish at the base; pectus with a narrow transverse yellow spot on each side. Wings pale grey, tawny towards the base, brown along the fore border. Halteres brown, yellow or tawny towards the tips. Abdomen with four yellow interrupted bands; hind border of the fourth and fifth segments yellow; under side with four entire yellow bands, its margin mostly yellow. *Legs luteous; coxæ black*. *Fem*. Head with a black stripe in front.

Not very common. (E. I.)

3. **ornatus,** Mg. zw. iii. 298. 37 (1822); Mq.; Ztt.; Gmtl.—*festivus* var., Fln. Niger, thoracis lateribus scutelloque flavis, alis subcinereis, abdomine flavo-fasciato, *pedibus flavis, femoribus posticis apice nigris, tibiis posticis fusco-cinctis.* Long. 3½–5; alar. 7–10 lin.

Black. Head yellow or luteous in front. Antennæ ferruginous. Thorax with a yellow stripe on each side; scutellum yellow towards the hind border; pectus with a narrow transverse yellow spot on each side. Wings slightly tinged with grey, tawny along the fore border from the base to the middle, where there is a short dark brown stripe. Halteres brown, with yellow knobs. Abdomen with four broad yellow interrupted bands; the first very broad, forming a triangular yellow spot on each side; under side with entire bands. *Legs yellow; coxæ black; hind femora with black tips*; hind tibiæ and hind tarsi tawny; *a slight brown band on each hind tibia. Fem.* Head with a black stripe in front.

Not very common. (E.)

Genus XXVIII. **MELITHREPTUS.**

MELITHREPTUS, Lw. btrg. *Musca* p., L.; Rm.; Dg.; Shr.; Spl. *Syrphus* p., Fb. s. i.; Ll.; Mg. *Scæva* p., Fb. s. a.; Fln. *Sphærophoria*, St. F. et Srv.; Ztt.; Rdn.

Corpus angustum, flavo-pictum. Epistoma vix elongatum, ad os prominens. Antennæ capitis latitudine conjunctim breviores, basi disjunctæ; articulus quartus dorsalis; quintus subnudus. Alæ areolis discali et subapicali margine posteriore fere æqualiter remotis et illi parallelis, areola subapicali integra, lobo axillari distincto, venis subcostali et radiali ad marginem disjunctis, vena transversa præbrachiali ante areolæ discalis medium locata. Abdomen segmentis septem conspicuis. Mas. Oculi connexi. Abdomen longum, cylindricum. *Fœm.* Oculi modice remoti. Abdomen brevius, depressum.

Body slender, rather small, almost bare. Head, sides of the thorax, scutellum, bands or spots of the abdomen, and legs, yellow. Head semicircular. *Epistoma but little elongated horizontally, protuberant towards the mouth. Antennæ* 5-jointed, porrect, nutant, *jointly shorter than the breadth of the head, separated at the base*; first and second joints small; third almost round; fourth very small, *seated on the base of the third*; fifth setiform, *almost bare.* Wings rather short and narrow; flight feeble; *discal and subapical areolets nearly equidistant from and parallel to the posterior margin; subapical areolet entire; axillary lobe distinct; subcostal and radial veins ending separately in the margin; transverse præbrachial vein placed before the middle of the discal areolet.* Alulæ small. Halteres uncovered. Legs slender. *Male.* Eyes connected. Abdomen long, cylindrical. *Fem.* Eyes parted. Abdomen shorter, depressed.

These flies especially frequent sweet-scented flowers; their movements are slow. The yellow marks on the abdomen are very variable. The larvæ feed on Aphides.

1. **scriptus,** L. fn. i. 1091 (1749); Fb.; Ll.; Mg.; Mq.; Lw.; Ztt.—*gemmatus,* Spl.?—*menthastri* var., Fln. Æneus, capite antennis thoracis lateribus scutelloque flavis, *peristomate puncto nigro,* alis subcinereis, *abdomine fasciis quatuor flavis prima et quarta subinterruptis, pedibus flavis.* Long. 4–5; alar. 7–8 lin.

Æneous. Head, antennæ, sides of the thorax, and scutellum yellow. *Peristoma with a black dot.* Maxillæ nearly as long as the palpi. Palpi subclavate, half the length of the labium. Wings slightly grey. Halteres tawny. *Abdomen with four yellow bands.* Legs yellow. *Male. Bands of the abdomen broad; first sometimes interrupted; second and third rarely interrupted; third slightly notched; fourth deeply notched, intersected by a black stripe. Fem. Bands narrow; third notched; fourth irregular and interrupted.*

Generally distributed. (E. S. I.)

2. **menthastri,** L. s. n. ii. 987. 53 (1767); Dg.; Fb.; Spl.; Shr.; Rsi.; Ll.; Fln.; Mg.; Mq.; Ztt. Æneus, capite antennis thoracis lateribus scutelloque flavis, *epistomate linea media fusca, alis subcinereis, abdomine fasciis quatuor flavis interruptis secunda integra,* pedibus flavis. Long. 3½–4; alar. 6–7 lin.

Æneous. Head, antennæ, sides of the thorax, and scutellum yellow. *Epistoma with a brown stripe.* Wings slightly grey. Halteres tawny. *Abdomen with four luteous bands.* Legs yellow. *Male. Bands broad, more or less interrupted and shortened; very rarely entire; fourth more or less marked with black. Femora rarely black towards the base. Fem. Bands narrow, interrupted, sometimes entire; hind borders of the segments edged with yellow.*

Generally distributed. (E. S. I.)

3. **tæniatus,** Mg.! zw. iii. 325. 71. pl. 30. f. 55 (1822); Mq.; Lw.; Ztt.—*menthastri* var., Fln. Æneus, capite thoracis lateribus scutelloque flavis, antennis fulvis, alis sublimpidis, *abdomine fasciis quatuor luteis leviter emarginatis,* pedibus flavis; *Mas. peristomatis margine anguste nigro, femoribus basi nigris; Fœm. peristomate puncto nigro.* Long. 4; alar. 6 lin.

Metallic green. Head, scutellum, and sides of thorax yellow. Antennæ tawny. Wings almost colourless. Halteres luteous. Abdomen with four broad entire luteous bands; the fourth occupying the whole of the last segment, slightly spotted with black. Legs yellow. *Male. Fore border of the peristoma* with a narrow black band. *Femora black towards the base. Fem. Peristoma* with a black dot.

Generally distributed. (E. S. I.)

Genus XXIX. **BACCHA.**

BACCHA, Fb. s. a. 200. 6 (1805); Fln.; Mg.; Mq.; Ztt.; Ct.; Rdn. *Syrphus* p., Fb. s. i. *Musca* p., Gml. *Baccha* p., St. F. et Srv.

Corpus gracile. *Antennæ articulo quarto dorsali. Alæ areola subapicali integra, lobo axillari indistincto.* Abdomen petiolatum. *Femora postica gracilia.*

Body slender. Head semicircular; epistoma slightly depressed, with a scapula; peristoma oblong, narrow, straitened in front. Labrum large, broad, notched at the tip, with a spine in the middle and a smaller one on each side. Lingua stout, lanceolate. Maxillæ short, slender, subulate, as long as the palpi, slightly curved. Palpi clavate, membranous, hairy towards the tips, not half the length of the labrum. Labium short, stout, cylindrical. Antennæ 5-jointed, small, approximate, porrect, nutant; first and second joints small; first cyathiform; second much shorter and broader, bordered with stout bristles; third almost round, somewhat quadrate, compressed; fourth very minute, *seated on the base of the third*; fifth setiform, stout, rather short, slightly pubescent. Thorax oval. Wings large, with obtuse tips, very finely pubescent, incumbent and parallel in repose; *subapical areolet entire; axillary lobe indistinct.* Alulæ small. Halteres uncovered. Abdomen pubescent, long, very slender; first segment short, thick in front, narrower behind; second cylindrical, very slender; third and fourth somewhat widened. Legs very slender; *hind femora not enlarged*; hind tarsi hardly dilated. *Male.* Eyes contiguous. Abdomen obtuse at the tip. *Fem.* Eyes parted by a narrow linear front. Abdomen acute at the tip.

The long slender petiolated abdomen is the most apparent distinctive character of this genus.

1. **elongata,** Fb. s. i. ii. 430. 42 (1781); Gm.; Fln.; Mg.; Mq.; Ztt.; Lw.—*sphegina,* Mg.—*tabida,* Mg.; Mq.; Ct.—*vitripennis,* Mg. Æenea, antennis nigris articulo tertio ferrugineo, scutello pectoreque chalybeis, *alis subcinereis,* venis transversis fusco-nebulosis, abdomine cupreo, lateribus fulvo-trimaculatis, pedibus fulvis, tarsis posticis fuscis. Long. 4–4½; alar. 7–8 lin.

Æneous, head covered with hoary bloom excepting a stripe on the crown and a black shining scapula on the epistoma. Antennæ black; third joint ferruginous. Scutellum chalybeous; under side of the thorax chalybeous, covered with hoary bloom. *Wings slightly grey*; transverse veins clouded with brown; stigma dark brown. Halteres tawny. Abdomen cupreous, adorned with three pairs of tawny spots; first pair small, at the base of the third segment; second pair large, quadrate, partly united, occupying from one-fourth to one-third of the fourth segment from its base; third pair small, at the base of the fifth segment. Legs tawny; hind tarsi brown. *Var. β.* First and second pair of ab-

dominal spots equal in size. *Var.* γ. Third pair of abdominal spots obsolete.

Generally distributed. (E. S. I.)

2. **obscuripennis,** Mg. zw. iii. 199. 4 (1822); Ztt.—*nigripennis,* Mg. Viridi-ænea, capite nigro-cyaneo, antennis nigris apice fuscis, alarum venis transversis fusco-nebulosis, *abdomine* cupreo *fasciis duabus fulvis ornato,* pedibus fulvis, tarsis posticis fuscis; *Mas. alis fuscis,* femoribus ferrugineis; *Fœm. alis cinereis,* abdominis apice fulvo-bimaculato. Long. 4–4½; alar. 7–8 lin.

Greenish-æneous. Head bluish-black, covered with hoary bloom excepting a stripe on the crown and a black shining scapula on the epistoma. Antennæ black; third joint brown. Scutellum æneous-black; a blue tinge on the thorax behind the base of each wing. Wings with a dark brown stigma; transverse veins of the disc clouded with dark brown. Halteres yellow, with tawny knobs. *Abdomen* cupreous, *adorned with two tawny bands, one at the base of the third segment, the other at the base of the fourth.* Legs tawny; hind tarsi brown. *Male. Wings brown*; alulæ tawny; femora ferruginous. Abdominal bands narrow. *Fem. Wings grey*; alulæ yellow. Abdomen with broad bands and with a tawny spot on each side of the base of the fifth segment.

Not common. (E. I.)

3. **scutellata,** Mg. zw. iii. 198. 2 (1822). Ænea, antennis piceis, *alis fuscis,* venis transversis nebulosis, abdomine fascia pedibusque flavis. Long. 4; alar. 7½ lin.

Æneous. Antennæ piceous. *Wings brown*; stigma dark brown; transverse veins clouded with dark brown. Halteres luteous. *Abdomen with a yellow band on the base of the fourth segment.* Legs yellow.

Rare. In the British Museum. (E. I.)

Genus XXX. **SPHEGINA.**

SPHEGINA, Mg. zw. iii. 193 (1822); St. F. et Srv.; Mq.; Ztt.; Zll.; Rdn. *Milesia* p., Fln.

Antennæ articulo quarto dorsali. Alæ areola subapicali integra apice rotundata, lobo axillari indistincto. Abdomen petiolatum. *Femora postica crassa.*

Head semicircular; epistoma contracted, with no scapula, obliquely truncated in front; peristoma oblong, narrower in front. Labrum somewhat narrower towards the tip, which is notched. Lingua acute. Maxillæ subulate, hardly half the length of the palpi. Palpi curved, clavate, pubescent, almost as long as the labrum. Labium long, cylindrical. Antennæ porrect, somewhat nutant, 4-jointed; first and second

joints very short; third almost round, compressed; fourth setiform, *seated on the base of the third.* Thorax oval. Wings large, obtuse, incumbent and parallel in repose; *subapical areolet entire, rounded at the tip behind; axillary lobe indistinct.* Alulæ small. Halteres uncovered. Abdomen petiolated, obclavate; first segment very short; second long, very slender; third and fourth dilated; fifth small. *Hind femora thick, armed beneath with slender spines*; hind tibiæ somewhat curved; hind tarsi slightly dilated. *Male.* Eyes approximate. Tip of the abdomen obtuse. *Fem.* Eyes more remote. Tip of the abbomen somewhat acute.

1. **clunipes,** Fln. syrph. 12. 10; Mg.! zw. iii. pl. 28. f. 5; Mq.; Ztt.; Lw. Nigra, epistomate fulvo, alis subcinereis, abdomine subtus flavo, pedibus fulvis, femoribus posticis nigris, tibiis posticis piceocinctis, tarsis posticis piceis; *Mas.* abdomine fulvo-fasciato. Long. $2\frac{1}{2}$–3; alar. 5–6 lin.

Black. Epistoma and sides of the peristoma tawny. Wings slightly grey. Halteres yellow. Abdomen mostly yellow beneath. Legs tawny; hind femora black, pale tawny at the base; hind tibiæ with piceous bands; hind tarsi piceous. *Male.* Abdomen with a broad ferruginous band. *Var.* β. Antennæ piceous. *Var.* γ, *male.* Antennæ tawny. *Var.* δ, *fem.* Abdomen with three ferruginous bands.

Not common; partial to the flowers of the Wild Garlic. (E. S. I.)

Genus XXXI. **ASCIA.**

Ascia, Mgrle.; Mg. zw. iii. 185 (1822); St. F. et Srv.; Mq.; Ztt.; Rdn. *Syrphus* p., Fb.; Pz. *Musca* p., Shr.; Gf.; Gm. *Merodon* p., Fb. *Milesia* p., Ll.; Fln.

Antennæ articulo quarto dorsali. Alæ areola subapicali integra apice truncata, lobo axillari indistincto. Abdomen petiolatum. *Femora postica crassa.*

Head semicircular; epistoma prolonged, acute and divided at the tip; peristoma long, narrow, straitened in front. Eyes parted. Proboscis elongate. Labrum somewhat narrower towards the tip, where it is notched. Lingua acute. Maxillæ subulate, curved, half the length of the palpi. Palpi as long as the labrum, cylindrical, capitate, beset with some short bristles at the tips. Labium cylindrical. Antennæ 4-jointed, porrect, nutant, somewhat shorter than the head; first joint short, cylindrical, bristly; second compressed, cyathiform, as long as the first; third elliptical, compressed; fourth setiform, *seated on the middle of the third.* Thorax convex; scutellum semicircular. Wings obtuse, very finely pubescent, incumbent and parallel in repose; *subapical areolet entire, truncated; axillary lobe indistinct.* Abdomen

petiolated. Anterior legs slender; *hind femora thick, clavate, armed beneath with slender spines*; hind tibiæ curved; hind tarsi slightly dilated. *Male.* Front narrow. Abdomen fusiform. *Fem.* Front broad. Abdomen obclavate, broader than that of the male.

1. **podagrica,** Fb. sp. i. ii. 430. 43 (1781); Shr.; Gm.; Pz.; Ll.; Fln.; Mg.; Mq.; Ztt.—*ichneumonea*, Shr. i. a.—*elongata*, Shr. f. b. Nigro-chalybea, antennis nigris articulo tertio subtus rufo, *alis* subcinereis *fusco-semifasciatis, venis transversis fusco-nebulosis*, abdomine fulvo-bifasciato, pedibus fulvis, tibiis nigro-cinctis, femoribus posticis nigris. Long. 2–2½; alar. 4–5 lin.

Chalybeous-black. Head with a hoary tinge behind and beneath. Antennæ black; third joint red beneath. Wings slightly grey, with a brown band extending from the middle of the costa to the disc; apical transverse veins clouded with dark brown. Halteres pale yellow. Abdomen with tawny bands along the hind borders of the second and of the third segments; fourth and fifth segments æneous. Legs tawny; hind coxæ black; hind femora black, yellow towards the base; a black band round each tibia, that of the hind tibia much the broadest; hind metatarsi brown above. *Var.* β, *fem.* A notch on the hind border of the second abdominal band. *Var.* δ, *fem.* Abdominal bands interrupted. *Var.* γ, *fem.* First abdominal band interrupted; second notched.

Generally distributed and very abundant. (E. S. I.)

2. **dispar,** Mg. zw. iii. 188. 4. pl. 27. f. 28 (1822); Mq.; Ztt. Æneus, antennis nigris, *alis* subcinereis *immaculatis, abdomine non acuminato*, tibiis tarsisque fulvis, illorum fasciis metatarsisque anticis et posticis nigris. Long. 2; alar. 4 lin.

Æneous. Epistoma covered with yellow down. Antennæ black. *Wings* pale grey, *not clouded*; stigma brown. Halteres luteous. Tibiæ and tarsi tawny; tibiæ with black bands; tips of the tarsi brown; fore and hind metatarsi black.

Rare. In the British Museum. (E. I.)

3. **hastata,** Hms.; Mg. zw. iii. 189. 5 (1822). Ænea, antennis nigris, articulo tertio subtus rufo, *alis* subcinereis *immaculatis, abdomine acuminato*, pedibus fulvis, femoribus anterioribus tibiisque nigro-cinctis, femoribus posticis nigris. Long. 2; alar. 4 lin.

Body æneous-black. Head with a hoary tinge behind and beneath. Wings slightly grey, not clouded; stigma pale brown. Halteres pale yellow. Abdomen slender; last segment æneous. Legs tawny; hind coxæ black; hind femora black, yellow towards the base; tibiæ and anterior femora with black bands; hind metatarsi brown above.

Rare. In the collection of the Entomological Club. (E.)

Family XXVI. CONOPIDÆ.

Conopidæ p., Lch. (1819); Wtw.; St. *Conopsariæ* p., Ll.; Fln.; Mg.; Mq.; Ztt. *Conopsidæ* p. et *Conopites*, Nwm. *Conopsinæ*, Rdn. *Conopica*, Brm.; Ags. *Conopsariæ* p., Lm.

Proboscis distincta. Antennæ apice stylatæ. Vena cubitalis simplex, spuria nulla; lobus axillaris rotundatus.

Proboscis distinct. Last joints of antennæ forming a short style. Wings perfect; cubital vein simple; brachial veins without spurious vein; axillary lobe rounded. Halteres uncovered.

Genus I. **CONOPS.**

Conops, Fb. e. s. iv. 390 (1792); Ll.; Fln.; Mg.; Wd.; Dml.; Ct.; Mq.; Ztt. *Conops* p., L.; Fb. sp. i.; Gf.; Gm. *Asilus* p., Gf. *Empis* p., *Spl. Brachiglossum, Conopæus, Conops, Spariglossum*, et *Conopilla*, Rdn.

Corpus mediæ magnitudinis, sat gracile, flavo aut rufo sæpissime fasciatum. Caput vesiculosum. Oculi exserti, remoti. Ocelli nulli. Antennæ porrectæ, capite non breviores, basi approximatæ et geniculatæ; articulus primus brevis, cylindricus; secundus longus, subclavatus; tertius conicus, secundo brevior; quartus brevissimus; quintus et sextus latiores; septimus stylatus. Thorax subquadratus. Alæ lanceolatæ. Abdomen obclavatum, basi angustum, apice incurvum. Pedes simplices, inermes; tibiæ posticæ basi coarctatæ; metatarsi articulo secundo fere triplo longiores.

Body of middle size, rather slender, generally adorned with yellow or red bands. Head thick, vesiculose; the crown especially with a transverse vesicular tubercle; front broad in both sexes. Eyes prominent, oblong. Ocelli none. Proboscis long, porrect, stiff, clavate, horizontal or somewhat raised into a curve, geniculate at the base, making a single fold with its angle to the breast. Labrum slender, arched above, hollow beneath, obliquely notched at the tip, much shorter than the labium. Lingua slender, filiform, transparent. Palpi uniarticulate, short, very small, fringed at the tips with fine bristles. Labium obliquely porrect, cylindrical, twice the length of the lingua, narrower towards the tip, most slender in the male, bilobed, slightly hairy, and with three shallow transverse furrows at the tip. Antennæ about as long as the head, porrect, seated on a tubercle, approximate at the base, diverging thence; first joint short, cylindrical, pubescent, forming an angle with the second; second long, subclavate; third conical, shorter than the second; fourth very short; fifth and sixth larger, widened on one side; sixth and seventh like a little spine.

Thorax almost quadrate, slightly convex above, with a scapula on each side; scutellum small, semicircular. Wings lanceolate, finely pubescent, incumbent and parallel in repose; præbrachial vein united with the cubital towards the tip; præbrachial and discal areolets long, the latter closed near the posterior margin by a transverse vein; anal areolet long, distinct, complete. Abdomen arched, rather long, with six segments more or less slender towards the base, obclavate towards the tip, which is incurved. Legs rather stout; tibiæ very slightly curved, compressed and dilated at the tips, in some cases with a transverse suture; tarsi rather broad; ungues and onychia distinct. *Male.* Abdomen with a projecting conical process on the fourth segment beneath.

These flies frequent flowers; their larvæ are parasitic on those of humble-bees. The second abdominal segment is very variable in the degree of its contraction, and the British species may be grouped thus:—

a. Abdomen more or less sessile. Species 1–8.
a a. Abdomen much petiolated. Species 9.

Conopæus, Rdn., includes *C. quadrifasciata* and *C. flavipes*; *Conops*, Rdn., contains *C. macrocephala*; and *C. ceriæformis* belongs to *Conopilla*, Rdn.

1. **vesicularis,** L. fn. 1903 (1761); Gf.; Fb.; Mg.; Ll.; Fln.; Ct.; Mq.; Ztt.—Mas. *cylindrica*, Mg. kl. *Ferruginea, capite flavo argenteo-quadrivittato, thoracis disco piceo, alis subcinereis ad costam ferrugineis, abdomine flavo-univittato basi piceo.* Long. 6½; alar. 12 lin.

Ferruginous. Head yellow above and in front, with four silvery stripes; the outer pair along the eyes; the inner pair diverging from the base of the antennæ to the peristoma. *Disc of the thorax piceous. Wings slightly grey; a ferruginous stripe occupying half the breadth from the costa includes a greyish spot near the tip.* Halteres yellow. *Abdomen piceous towards the base; hind border of the second segment yellow.*

Rare. (E.)

2. **flavipes,** L. fn. 1904 (1761); Fb.; Gm.; Pz. fn.! lxx. 21, 22; Fln.; Mg.; Mq.; Ztt.; Rdn.—*trifasciata*, Dg.—*vesicularis*, Hrs.! —*melanocephala*, Mg. kl.—*macrocephala*, Sch. Sml.! cp. *Nigra flavo-varia, capite argenteo-bivittato, alis cinereis ad costam fuscis, pedibus flavis, femoribus nigro-fasciatis.* Long. 5–5½; alar. 9–10 lin.

Black. Head yellow above and in front; *two silvery stripes diverging from the base of the antennæ to the peristoma*; vertex piceous, black towards the antennæ. Thorax with two yellow nearly round humeral scapulæ; *scutellum yellow along the hind border. Wings grey, brown along the costa.* Halteres yellow. *Abdomen bluish-black; first segment with a small yellow scapula on each side; hind borders of the second and third segments yellow. Femora yellow at the base and at the tips; tibiæ*

yellow; tarsi tawny towards the base. *Fem.* Hind border of the fourth abdominal segment yellow.

Not rare. (E.)

3. **quadrifasciata,** Dg. i. vi. 261. 1. pl. 15. 1 (1752); Fln.; Mg.; Mq.; Ztt.; Rdn.—*aculeata*, Fb.; Gm.; Shf. ic. pl. 228. f. 8! *Nigra, capite antico flavo-aurato, thorace flavo-bimaculato, alis subcinereis ad costam subfuscis, abdomine flavo nigro-quadrifasciato; Mas.* pedibus flavis, femoribus posterioribus nigro-fasciatis, tarsis fulvis; *Fœm.* pedibus fulvis, femoribus ferrugineis. Long. 5; alar. 9 lin.

Black. Head yellow and gilded in front; a triangular yellow spot on the vertex. Thorax with two yellow nearly round scapulæ; metathorax gilded on each side. Wings slightly grey, tinged with brown along two-thirds of the costa. Halteres yellow. *Abdomen yellow, slightly silvery towards the tip, with a black band on the fore border of each segment*; first and second bands broad, and, like the third and fourth, more or less angular on their hind borders; first segment with a yellow scapula on each side. *Male.* Abdominal bands narrower than those of the female. Legs yellow; posterior femora with black bands; tarsi tawny. *Fem.* Legs tawny; femora ferruginous.

Generally distributed. (E. I.)

4. **aculeata,** L. fn. 1906 (1761); Mg.; Mq.; Ztt.—*scutellata*, Mg. kl.—*macrocephala*? Hrs. ex.! pl. 20. f. 2, 3. *Nigra, capite antico flavo-aurato, thorace flavo-bimaculato, alis cinereis basi subfulvis, abdomine fasciis apiceque flavis, pedibus fulvis, femoribus ferrugineis nigro-vittatis.* Long. 5½; alar. 9 lin.

Black. Head yellow and gilded in front; a triangular yellow spot on the vertex. Thorax with two yellow nearly round humeral scapulæ; metathorax silvery on each side. Wings grey, slightly tawny at the base. Halteres yellow. *Abdomen bluish-black, with yellow bands occupying the hind borders of the segments and the whole of the tip*; a yellow scapula on each side of the first segment. *Legs tawny; femora ferruginous, with short black stripes.*

Rare. In the collection of the Entomological Club. (E.)

5. **ceriæformis,** (Mgrle.) Mg. zw.! iv. 132. pl. 36. f. 26 (1824); Mq.; Rdn. *Nigra, capite antico flavo-aurato, thorace flavo-bimaculato, alis subcinereis ad costam fuscis, abdomine flavo-quadrifasciato, pedibus flavis, femoribus nigro-fasciatis, tarsis fulvis.* Long. 5½; alar. 9 lin.

Black. Head yellow and brightly gilded in front; a triangular yellow spot on the vertex. Thorax with two yellow humeral scapulæ; metathorax silvery on each side. Wings slightly grey, tinged with brown at the base and along two-thirds of the costa. Halteres yellow. *Abdomen long and narrow; hind borders of the first, second, third, and fourth segments yellow.* Coxæ silvery; *femora yellow at the base and at the tips*; tibiæ yellow; *tarsi tawny.*

Rare. In the collection of the Entomological Club. (E.)

6. **strigata,** (Wdm.) Mg. zw. iv. 133. 18 *(fœm.)* (1824).—*trifasciata,* Mg. vii. 165. 23 *(fœm.)*—*auricincta,* Lw. btr. iii. 10. 11. *Nigra, epistomate flavo nigroque, abdominis segmentis tribus margine flavis, pedibus ferrugineis, femoribus medio nigris, alis margine antico testaceis.* Long. 4½; alar. 9 lin.

Black. Face yellow, with a black streak down the middle, tapering upwards to a point, and *a triangular black spot on each cheek,* sometimes connected with a streak proceeding from a large black spot which occupies the portion of the yellow front immediately above the antennæ; the vertex is ferruginous; the occiput black, with a narrow yellowish orbit. The proboscis, palpi, and antennæ black; the first joint of these last ferruginous beneath. Thorax black, except the humeral scapulæ, which are usually yellowish; the pleuræ partially glossed with dull golden tomentum, forming two oblique bands and a broader patch behind them. *Wings brown along the anterior margin,* hyaline behind, yellowish at the base, with the alulæ and halteres. *Abdomen black,* the hind margin of the second, third, and fourth segments glossed with golden tomentum, forming *three narrow yellow bands*; the two following segments in the male are nearly covered with a duller yellowish tomentum; and in both sexes the sides of the abdomen are often spotted with brown. In the female the fifth ventral segment is not nearly so prominent as usual, merely forming a semicircular fold with a depression behind it. The coxæ are black, the trochanters and *tibiæ ferruginous, as also the base of the tarsi, and the base and tip of the femora*; the last more largely on the under side, and the proportion of black in the femora varies.

A single specimen (male) was found by Alfred Furlong, Esq., near Killarney, in the summer of 1850. (I.)

Individual description of this specimen in full:—

"Black. First joint of antennæ ferruginous beneath. Facial orbit yellow, a deep black dot above at its commencement, distinguished from the duller black ground-colour. A bifid yellow band down the face, the arms of which diverge from the base of the antennæ and are continued to the peristoma. Occipital orbit narrower, yellow with a silvery gloss, produced downwards to the peristoma, and there meeting the facial band, and also connected along the eyes with the facial orbit. *Obs.* The black band (rugose in its upper part) which divides the facial yellow band from the anterior orbit is greatly attenuated and almost interrupted in the middle (if this interruption were complete, there would be a triangular black spot on the cheeks, as described by Loew). Peristoma internally yellow. Thorax black; the prothoracic tubercles fusco-ferruginous. The pleuræ with markings of dull golden tomentum. Halteres yellow. Wings dusky along the entire costal margin, hyaline behind, but at the base yellow, as are the alulæ. Coxæ black, with the apex ferruginous. Tibiæ yellow-ferruginous, the hind pair a little dusky at the internal apex. Tarsi black-brown, the base and the onychia ferruginous."—*Haliday, MSS.*

7. **macrocephala,** L. fn. 467. 1902 (1761); Dg.; Gf.; Fb.; Gm.; Cqb. ic.! pl. 27. f. 5; Fln.; Mg.; Ct.! b. e. pl. 377; Mq.; Ztt.; Rdn. *Nigra, capite piceo antice flavo fusco-vittato, antennis ferrugineis, alis flavescentibus ad costam fuscis, abdomine vix sessili, segmentorum marginibus argenteo-flavo-fasciatis, pedibus ferrugineis, femoribus basi coxisque fuscis.* Long. 6½; alar. 12 lin.

Black, slightly cinereous. *Head piceous; face yellow, with a brown streak from the vertex to the antennæ, and a triangular brown spot beneath the antennæ.* Proboscis piceous. *Antennæ ferruginous.* Thorax with two silvery humeral spots. *Wings yellowish, brown along the costa.* Halteres ochreous, black at the base. *Abdomen hardly sessile; margins of the segments silvery-yellow; second segment slender. Legs ferruginous; femora towards the base and coxæ dark brown.*

Rare. In Mr. Dale's collection. (E.)

8. **nigra,** Dg. i. vi. 105. 4 (1752); Hbst. g. n. viii. 117. 5. pl. 70. f. 5; Mg. zw. iv. 126. 8. *Nigra, capite antico luteo, antennis apice subtus abdominisque fascia ferrugineis, alis hyalinis ad costam fuscis, pedibus fulvis, femoribus basi nigro-variis, tarsis piceis.* Long. 6½; alar. 11 lin.

Black. Head luteous in front, with a black scapula extending from the base of the antennæ to the peristoma. Antennæ ferruginous beneath towards the tips. Humeral scapulæ piceous. *Wings hyaline, with a brown stripe occupying half the breadth, and extending from the base nearly to the tips, where it becomes narrow.* Halteres tawny. *Second abdominal segment ferruginous towards the tip. Legs tawny; femora streaked with black towards the base; tarsi piceous.*

Very rare. In Mr. Desvignes' collection. (E.)

9. **rufipes,** Fb. sp. i. ii. 466. 3 (1781); Ll.; Gm.; Fln.; Mg.; Mq.; Ztt.—*petiolata,* Dnv.! i. xiii. 39. pl. 451. *Nigra, capite antico flavo argenteo nigro-vittato, thorace piceo-bimaculato, alis subcinereis ad costam ferrugineis, abdominis fasciis apiceque auratis, segmento secundo pedibusque ferrugineis, tibiis basi fulvis.* Long. 5–6; alar. 9–10 lin.

Black. Head yellow and slightly silvery from the vertex to the peristoma, with a black stripe from the vertex to a little beyond the base of the antennæ, where it has three branches. *Thorax with a piceous scapula on each shoulder. Wings slightly grey; a ferruginous stripe, occupying half the breadth from the costa, becomes brown and includes a greyish spot towards the tip.* Halteres yellow. *Abdomen gilded on the hind border of each segment and at the tip; second segment ferruginous, very slender. Legs ferruginous; tibiæ tawny towards the base.*

Generally distributed. (E.)

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Page 9. The families STRATIOMIDÆ to EMPIDÆ (pp. 9–144), which are numbered I. to IX., should be numbered XII. to XX., to accord with the Synopsis on p. 8.
,, 9, line 3 from bottom, *for* or aquatic plants; from the spring to the autumn their movements are slow, *read* or aquatic plants, from the spring to the autumn; their movements are slow.
,, 20, line 30, *dele* Stg. at the end.
,, 23, line 28, *for* Hal. MSS., *read* Dale, MSS.
,, 32, line 10, *for* **bipunctata**, *read* **bipunctatus.**
,, 66, line 2 from bottom, *dele* Rgb.
,, 82, line 11 from bottom, *for* Mikau, *read* Mikan.
,, 107, line 14 from bottom, for *vena externo-mediæ*, read *venæ externo-mediæ.*
,, 120, line 3, *for* Mbr., *read* Mlr.
,, 121, line 8 from bottom, *for* Mq. s. n., *read* Mq. d. n.
,, 121, line 7 from bottom, add *Sicus* p., Ll.
,, 122, line 3 from bottom, *for* Mg. d., *read* Mg. zw.
,, 126, line 1, *for* Mg. d., *read* Mg. zw.
,, 137, line 9, *after Empis* p., Ztt., *add Tachypeza* p., Wlk.
,, 141, head-line, *for* PHYLLODROMIA, *read* TACHYDROMIA.
,, 144, Fam. XXI. DOLICHOPIDÆ. The hypostoma in the descriptions of this family is the epistoma elsewhere in the volume.
,, 157, line 10, *for* Species 52, *read* Species 48–50.
,, 157, line 12, *for* Species 48, 49, *read* Species 52.
,, 190, line 18, *for* Mg. iv., *read* Mg. zw. iv.
,, 231, line 20, *for* St. F. et Sw., *read* St. F. et Srv.
,, 234, line 9, for *Chetolona*, read *Chetoloxa.*
,, 237, Genus 25, *for* CHILOSIA, *read* CHEILOSIA.
,, 239, line 9, for *amea*, read *aurea.*
,, 239, line 18 from bottom, *for* epistoma very flat, convex? *read* epistoma flat.
,, 245, line 5 from bottom, *for* Dg. fig. Sch. i. e., *read* Dg.; fig. Sch. ic.
,, 261, line 8 from bottom, *dele* Pz.
,, 264, line 9 from bottom, *for* Hhs., *read* Hrs.
,, 284, line 10, *for* **vulpinus**, *read* **vulpina.**

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PLATE I.

Family XII. STRATIOMIDÆ.

Genus 1. **Beris.** Fig. 1. *Beris chalybeata.** 1 *a*, antenna; 1 *b*, extremity of tarsus; 1 *c*, 8-spined scutellum.

Genus 2. **Actina.** Fig. 2 *a*, antenna of *Actina tibialis* (terminal joint showing indications of being formed of three joints coalesced); 2 *b*, 4-spined scutellum.

Genus 3. **Stratiomys.** Fig. 3. *Stratiomys chamæleon*, fem. 3 *a*, head of male; 3 *b*, proboscis with its palpi; 3 *c*, labrum and lingua (bifid at tip); 3 *d*, antenna (10-*jointed*).

Genus 4. **Oxycera.** Fig. 4 *a*, head of *Oxycera rara*, sideways; 4 *b*, antenna.

Genus 5. **Clitellaria.** Fig. 5 *a*, antenna (10-*jointed*) of *Clitellaria ephippium*.

Genus 6. **Nemotelus.** Fig. 6 *a*, head of *Nemotelus uliginosus*, sideways; 6 *b*, antenna.

Genus 7. **Pachygaster.** Fig. 7 *a*, antenna of *Pachygaster ater*.

Genus 8. **Chrysomyia.** Fig. 8 *a*, head of *Chrysomyia polita*, male, from above; 8 *b*, antenna.

Genus 9. **Sargus.** Fig. 9. *Sargus cuprarius*, male. 9 *a*, head of female from above; 9 *b*, ditto, sideways; 9 *c*, proboscis (palpus detached, after Meigen); 9 *d*, antenna (8-*jointed*).

Family XIII. XYLOPHAGIDÆ.

Genus 1. **Xylophagus.** Fig. 10. *Xylophagus ater* (fem.). 10 *a*, head, sideways, with antenna.

Genus 2. **Subula.** Fig. 11 *a*, head of *Subula maculata*, sideways, with *clavate* palpi; 11 *b*, antenna (12-*jointed*: 2nd joint very short, 11th joint very minute, 12th joint very slender). Fig. 12 *a*, cylindrical antenna of *Subula varia*.

Family XIV. TABANIDÆ.

Genus 1. **Tabanus.** Fig. 13. *Tabanus bovinus*. 13 *a*, head of male, sideways; 13 *b*, proboscis of male; 13 *c*, head of female, sideways; 13 *d*, proboscis of female; 13 *e*, antenna.

Genus 2. **Hæmatopota.** Fig. 14 *a*, head and antenna of *Hæmatopota pluvialis*.

Genus 3. **Chrysops.** Fig. 15 *a*, head and antenna of *Chrysops cæcutiens*; 15 *b*, antenna, more enlarged (showing it to be composed of *twelve joints*, those of the flagellum being confluent).

Family XV. ACROCERIDÆ.

Genus 1. **Acrocera.** Fig. 16. *Acrocera globulus*. 16 *a*, head, sideways; 16 *b*, antenna; 16 *c*, extremity of tarsus.

Genus 2. **Henops.** Fig. 17 *a*, head of *Henops globosus*, sideways; 17 *b*, antenna.

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* The natural length of the different species figured, is represented by the longitudinal lines drawn at the side or beneath them.

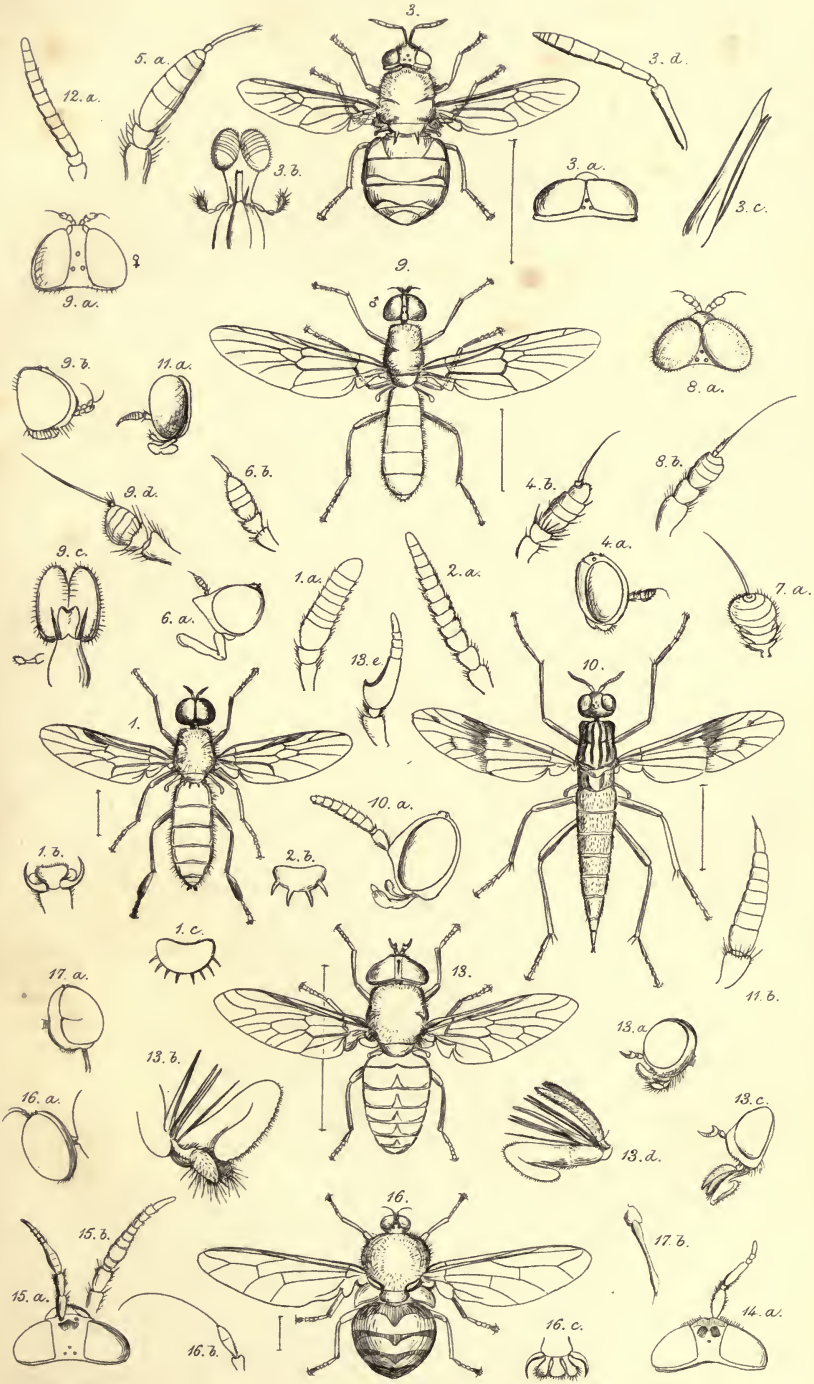
3.
3. d.
12. a.
5. a.
3. b.
3. a.
3. c.
9. a.
9.
9. b.
11. a.
8. a.
6. b.
4. b.
8. b.
9. d.
9. c.
4. a.
1. a.
2. a.
7. a.
6. a.
13. e.
1.
10.
10. a.
1. b.
2. b.
1. c.
11. b.
17. a.
13.
13. a.
13. b.
16. a.
13. c.
13. d.
16.
15. b.
17. b.
15. a.
16. b.
16. c.
14. a.

PLATE II.

Family XVI. ASILIDÆ.

Genus 1. **Laphria.** Fig. 1 *a*, head of *Laphria marginata*, sideways; 1 *b*, antenna.

Genus 2. **Asilus.** Fig. 2. *Asilus crabroniformis.* 2 *a*, head, seen sideways; 2 *b*, extremity of antenna; 2 *c*, proboscis; 2 *d*, extremity of tarsus.

Genus 3. **Dasypogon.** Fig. 3 *a*, head of *Dasypogon brevirostris*, sideways; 3 *b*, antenna.

Genus 4. **Dioctria.** Fig. 4, head and antenna of *Dioctria cœlandica*, sideways.

Genus 5. **Leptogaster.** Fig. 5 *a*, head of *Leptogaster cylindricus*, sideways; 5 *b*, antenna; 5 *c*, hind tarsus.

Family XVII. LEPTIDÆ.

Genus 1. **Leptis.** Fig. 6. *Leptis scolopacea*, fem. 6 *a*, head, sideways; 6 *b*, antenna; 6 *c*, extremity of tarsus.

Genus 2. **Chrysopila.** Fig. 7 *a*, head of *Chrysopila holosericea*; 7 *b*, wing.

Genus 3. **Atherix.** Fig. 8 *a*, head of *Atherix Ibis*; 8 *b*, antenna.

Genus 4. **Ptiolina.** Fig. 9 *a*, antenna of *Ptiolina melæna.*

Genus 5. **Spania.** Fig. 10 *a*, antenna of *Spania nigra*, male; 10 *b*, ditto of female.

Family XVIII. BOMBYLIDÆ.

Genus 1. **Thereva.** Fig. 11. *Thereva cincta.* 11 *a*, antenna; 11 *b*, extremity of tarsus.

Genus 2. **Anthrax.** Fig. 12. *Anthrax hottentotta.* 12 *a*, front of head; 12 *b*, antenna.

Genus 3. **Lomatia.** Fig. 13 *a*, head of *Lomatia lateralis*, from above; 13 *b*, antenna.

Genus 4. **Bombylius.** Fig. 14. *Bombylius major.* 14 *a*, antenna; 14 *b*, extremity of tarsus.

Genus 5. **Phthiria.** Fig. 15 *a*, antenna of *Phthiria gibbosa.*

Family XIX. SCENOPINIDÆ.

Genus 1. **Scenopinus.** Fig. 16. *Scenopinus fenestralis.* 16 *a*, head, seen from beneath; 16 *b*, proboscis; 16 *c*, antenna; 16 *d*, extremity of tarsus.

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DIPTERA, Pl. II.

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PLATE III.

Family XX. EMPIDÆ.

Genus 1. **Empis.** Fig. 1. *Empis livida.* 1 *a*, head with antennæ and parts of proboscis extended; 1 *b*, antenna; 1 *c*, extremity of tarsus; 1 *d*, antenna of *Empis borealis.*

Genus 2. **Hilara.** Fig. 2 *a*, head of *Hilara cilipes*, sideways; 2 *b*, tarsus of fore leg of male.

Genus 3. **Ragas.** Fig. 3. *Ragas unica.* 3 *a*, head, sideways; 3 *b*, antenna; 3 *c**, proboscis of female, from side; 3 *d**, ditto, enlarged; 3 *e**, ditto, from above; 3 *f*, labrum; 3 *g**, one of the palpi; 3 *h**, outline of head of male, from below, with small proboscis; 3 *i**, proboscis of ditto, with palpi *in situ* and detached.

Genus 4. **Brachystoma.** Fig. 4 *a*, head of *Brachystoma longicornis*, sideways; 4 *b*, antenna.

Genus 5. **Ardoptera.** Fig. 5. *Ardoptera irrorata.* 5 *a*, head, sideways; 5 *b*, antenna.

Genus 6. **Heleodromia.** Fig. 6. *Heleodromia stagnalis.* 6 *a*, antenna; 6 *b**, proboscis with one palpus, the latter seen obliquely and somewhat narrowed; 6 *c**, labrum; 6 *d**, labrum with one palpus; 6 *e**, tongue, with portion of epistoma adhering (comp. *Wiedemannia*, fig. 7 *d*); 6 *f**, base of wing of a specimen with a supernumerary transverse vein marked with a small * (a circumstance not very rare), to illustrate the wing of *Clinocera*, Meig.

Genus 7. **Wiedemannia.** Fig. 7. *Wiedemannia lotæ* (a specimen with a minute triangular cell in the disc of each wing). 7 *a**, head; 7 *b**, ditto, sideways; 7 *c**, proboscis, with the tongue and one palpus removed; 7 *d**, the lingua, with the base abruptly enlarged, forming a large blunt tooth on each side (comp. *Dolichopus*); 7 *e**, labrum, with membranous edge, notched at the tip; 7 *f*, antenna; 7 *g*, extremity of tarsus seen obliquely.

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* The figures of the generic details in this and subsequent plates, indicated by a *, are engraved from drawings communicated by A. H. Haliday, Esq.

DIPTERA, Pl. III.

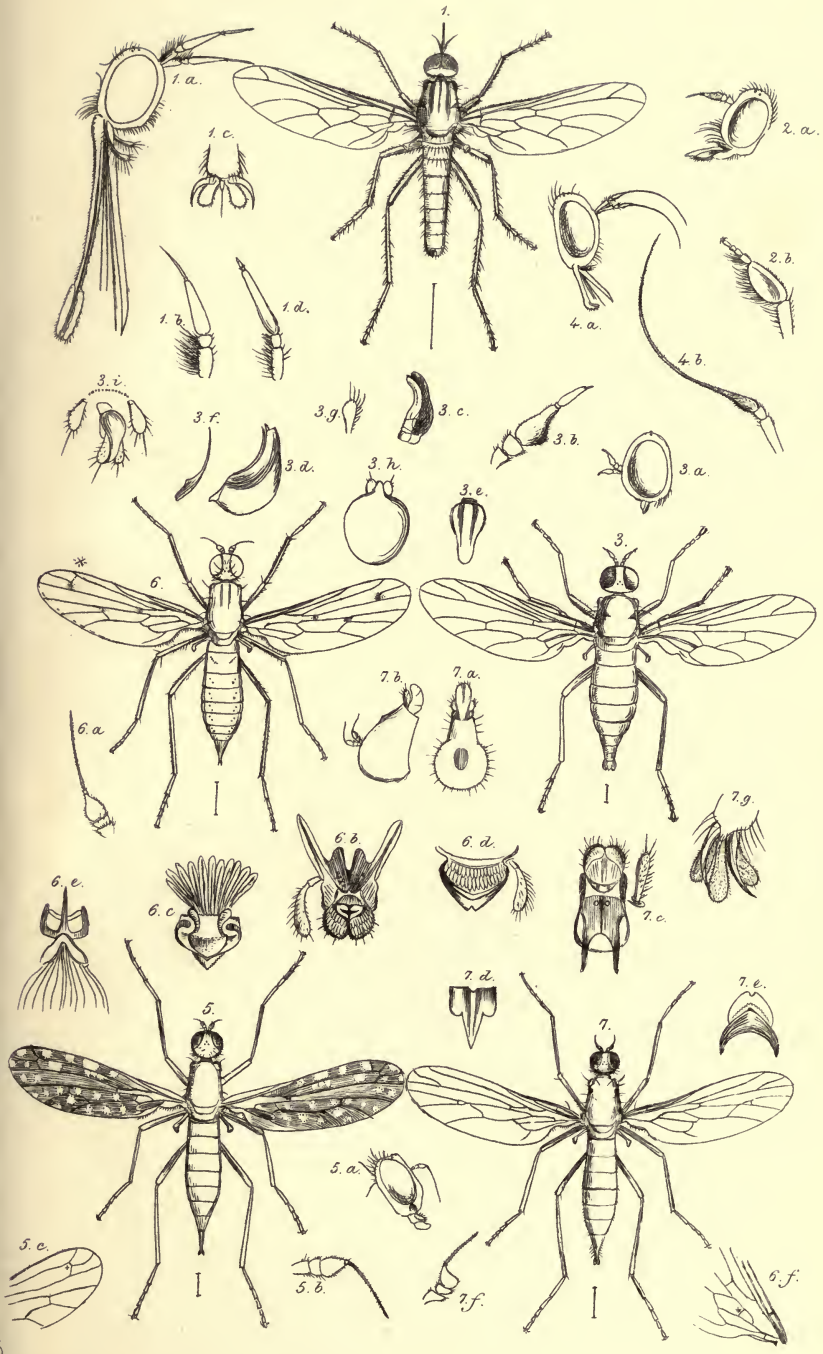

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PLATE IV.

Family XX. EMPIDÆ (*continued*).

Genus 8. **Sciodromia.** Fig. 1*. *Sciodromia immaculata*, male. 1 *a**, labium and palpus; 1 *b**, maxilla and palpus detached; 1 *c**, labrum; 1 *d**, lingua; 1 *e**, ditto, from beneath; 1 *f**, abdomen of female, sideways; 1 *g**, extremity of ditto; 1 *h**, 1 *i**, 1 *k**, different views of vagina detached.

Genus 9. **Rhamphomyia.** Fig. 2 *a*, head, antenna, and proboscis, with its parts extended, of *Rhamphomyia sulcata*; 2 *b*, wing; 2 *c*, hind leg of *R. pennata*, male; 2 *d*, ditto of ditto, female.

Genus 10. **Euthyneura.** Fig. 3. *Euthyneura myrtilli.* 3 *a*, head, sideways; 3 *b*, antenna.

Genus 11. **Œdalea.** Fig. 4. *Œdalea flavipes.* 4 *a*, proboscis; 4 *b*, antenna; 4 *c*, extremity of tarsus.

Genus 12. **Microphorus.** Fig. 5 *a*, head of *Microphorus clavipes*, sideways; 5 *b*, hind leg of male.

Genus 13. **Cyrtoma.** Fig. 6. *Cyrtoma spuria*, male. 6 *a*, antenna.

Genus 14. **Leptopeza.** Fig. 7 *a*, antenna of *Leptopeza ruficollis.*

Genus 15. **Ocydromia.** Fig. 8. *Ocydromia glabricula*, fem. 8 *a**, head, sideways; 8 *b**, proboscis and palpi, from above; 8 *c**, ditto, with one palpus, laterally; 8 *d**, 8 *e**, labrum, in two positions; 8 *f**, tip of the labella; 8 *g**, antenna; 8 *h**, base of wing; 8 *i**, extremity of tarsus; 8 *k**, subulate empodium; 8 *l**, vagina from above; 8 *m**, oblique view of the tentacula.

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DIPTERA, Pl. IV.

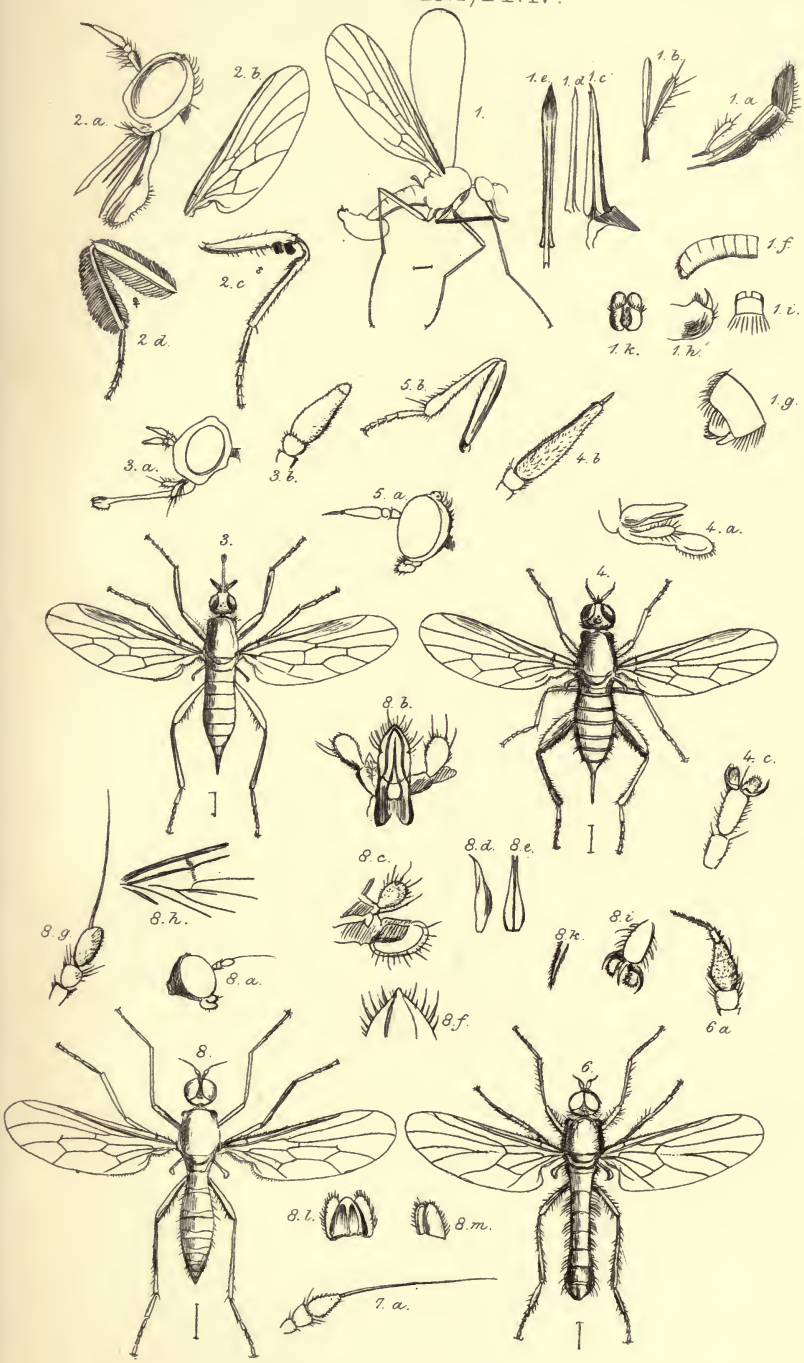

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PLATE V.

Family XX. EMPIDÆ (*continued*).

Genus 16. **Hybos.** Fig. 1 *a**, head of *Hybos grossipes*, sideways (proboscis deflexed, but porrected in repose); 1 *b**, lips at the extremity of the labium; 1 *c**, proboscis with epistoma and two palpi; 1 *d**, proboscis, from above, with palpi reflexed and showing the place of the rudimental maxillæ remote from the palpi; 1 *e**, ditto, ditto, sideways, with one palpus; 1 *f**, ditto, ditto, ditto (without the palpi), showing rudimental maxillæ, with the labrum and lingua separated; 1 *g**, tip of lingua, sideways; 1 *h**, lingua from above; 1 *i**, claw-joint of the tarsus; 1 *k**, antenna; 1 *l*, wing.

Genus 17. **Platypalpus.** Fig. 2. *Platypalpus fasciatus*, female. 2 *a**, head of *P. flavipes*, sideways; 2 *b**, proboscis, with one of the palpi; 2 *c**, ditto, with labrum forced out; 2 *d**, labium; 2 *e**, labrum, sideways; 2 *f**, ditto, from below; 2 *g**, tip of ditto, forced open; 2 *h**, antenna; 2 *i**, last joint of tarsus, from above; 2 *k**, ditto, sideways.

Genus 18. **Drapetis.** Fig. 3. *Drapetis lunata*, fem. 3 *a*, head, sideways; 3 *b*, antenna; 3 *c*, extremity of abdomen of male, sideways; 3 *d*, 3 *e*, 3 *f*, parts of the male organs of generation, detached; 3 *g*, head of *Drapetis atra*, sideways, after Curtis; 3 *h*, wing of ditto.

Genus 19. **Elaphropeza.** Fig. 4. *Elaphropeza ephippiata*, fem. 4 *a*, head in front, antennæ detached; 4 *b*, ditto, sideways, with the antennæ.

Genus 20. **Chersodromia.** Fig. 5. *Chersodromia hirta*, fem. 5 *a*, head, sideways; 5 *b*, antenna; 5 *c*, last joint of tarsus.

Genus 21. **Tachydromia.** Fig. 6 *a*, head of *Tachydromia arrogans*, sideways; 6 *b*, antenna; 6 *c*, wing.

Genus 22. **Phyllodromia.** Fig. 7. *Phyllodromia melanocephala*. 7 *a*, head, sideways.

Genus 23. **Hemerodromia.** Fig. 8 *a*, head of *Hemerodromia precatoria*, sideways; 8 *b**, proboscis, sideways, the labium shorter than the labrum; 8 *c**, ditto, with the labrum, lingua, and one of the maxillæ and palpi forced open, the labium somewhat lengthened by pressure; 8 *d**, one of the maxillæ, and its palpus; 8 *e**, lingua, from above; 8 *f*, wing of *H. precatoria*; 8 *g*, wing of *H. oratoria*.

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DIPTERA, Pl. V.

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PLATE VI.

Family XXI. DOLICHOPIDÆ.

Genus 1. **Psilopus.** Fig. 1. *Psilopus Wiedemanni*, male. 1 *a*, face of male; 1 *b*, antenna; 1 *c*, extremity of fore tarsus; 1 *d*, extremity of abdomen of male, sideways; 1 *e*, extremity of abdomen of male of *P. platypterus*.

Genus 2. **Sybistroma.** Fig. 2 *a*, extremity of abdomen of male of *Sybistroma obscurella*, from above (when longitudinally extended); 2 *b*, ditto, sideways; 2 *c*, the eight internal organs exposed on removing the two dorsal plates and the two long clavate lateral appendages seen in the two preceding figures.

Genus 3. **Dolichopus.** Fig. 3. *Dolichopus discifer*, male. 3 *a*, face of male; 3 *b*, face of female; 3 *c*, antenna; 3 *d*, base of wing; 3 *e*, extremity of abdomen of male, sideways; 3 *f*, extremity of fore tarsus of male; 3 *g*, antenna of *D. longicornis*; 3 *h*, antenna of *D. consobrinus*; 3 *i*, fore foot of ditto, male; 3 *k*, extremity of wing of *D. diademe*.

Genus 4. **Orthochile.** Fig. 4 *a*, head of *Orthochile nigro-cærulea*, sideways.

Genus 5. **Hydrophorus.** Fig. 5. *Hydrophorus balticus*, male. 5 *a*, face of male; 5 *b*, antenna; 5 *c*, abdomen of male, sideways; 5 *d*, extremity of tarsus, from beneath; 5 *e*, antenna of *H. lacustris*; 5 *f*, extremity of wing of ditto.

Genus 6. **Campsicnemus.** Fig. 6. *Campsicnemus scambus*, male; 6 *a*, face; 6 *b*, antenna; 6 *c*, base of middle tarsus; 6 *d*, abdomen of male, sideways.

Genus 7. **Thinophilus.** Fig. 7 *a*, face; 7 *b*, antenna.

Genus 8. **Rhaphium.** Fig. 8. *Rhaphium crassipes*, male.

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DIPTERA, Pl. VI.

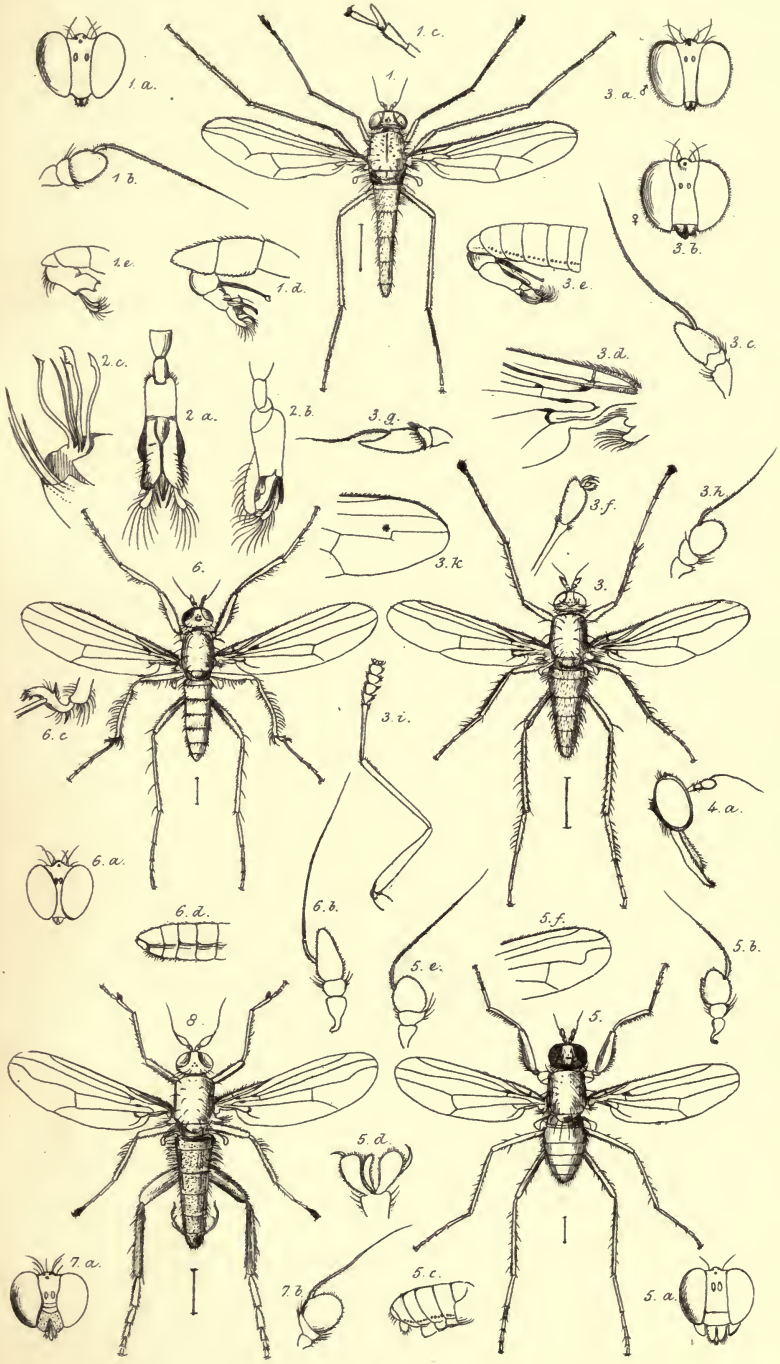

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PLATE VII.

Family XXI. DOLICHOPIDÆ (*continued*).

Genus 5. **Hydrophorus** (*continued*). Fig. 1. *Hydrophorus notatus*, male. 1 *a*, furcate and dentated labrum and lingua of *H. regius*.

Genus 8. **Rhaphium** (*continued*). Fig. 2 *a*, head and antenna of *Rhaphium longicorne*, male, sideways; 2 *b*, antenna of *R. cupreum*, male; 2 *c*, antenna of *R. macrocerum*, female; 2 *d*, antenna of *R. pallipes*, male; 2 *e*, antenna of ditto, female.

Genus 9. **Machærium.** Fig. 3. *Machærium maritimæ*. 3 *a**, general side view of the mouth without the palpi, the insertion of which is denoted by a star; 3 *b**, side view of labrum and tongue without the palpus or labium; 3 *c**, upper parts of the mouth, from above, with one palpus (labium not shown); 3 *d**, oblique view of side of labrum, showing the two lateral teeth; 3 *e**, tip of labrum with membranous edge; 3 *f**, the tongue seen from above; 3 *g**, the same, sideways; 3 *h**, antenna.

Genus 10. **Argyra.** Fig. 4. *Argyra leucocephala*, male. 4 *a*, face of male; 4 *b*, face of female; 4 *c*, antenna of *A. diaphana*, male; 4 *d*, extremity of abdomen of male; 4 *e*, mouth of *A. diaphana*, sideways, from Curtis.

Genus 11. **Porphyrops.** Fig. 5 *a*, antenna of *Porphyrops flaviventris*, male; 5 *b*, extremity of body of male, sideways.

Genus 12. **Diaphorus.** Fig. 6 *a*, face of *Diaphorus obscurellus*, male; 6 *b*, antenna of ditto.

Genus 13. **Chrysotus.** Fig. 7 *a*, face of *Chrysotus nigripes*, male; 7 *b*, wing; 7 *c*, antenna.

Genus 14. **Medeterus.** Fig. 8. *Medeterus diadema*, female. 8 *a*, face of ditto; 8 *b*, head, sideways; 8 *c*, antenna; 8 *d*, abdomen of *M. truncorum*, male.

Genus 15. **Aphrosylus.** Fig. 9. *Aphrosylus raptor*, male. 9 *a*, head, sideways; 9 *b*, antenna; 9 *c*, fore leg, showing spiny trochanter and coxa; 9 *d*, extremity of abdomen of male.

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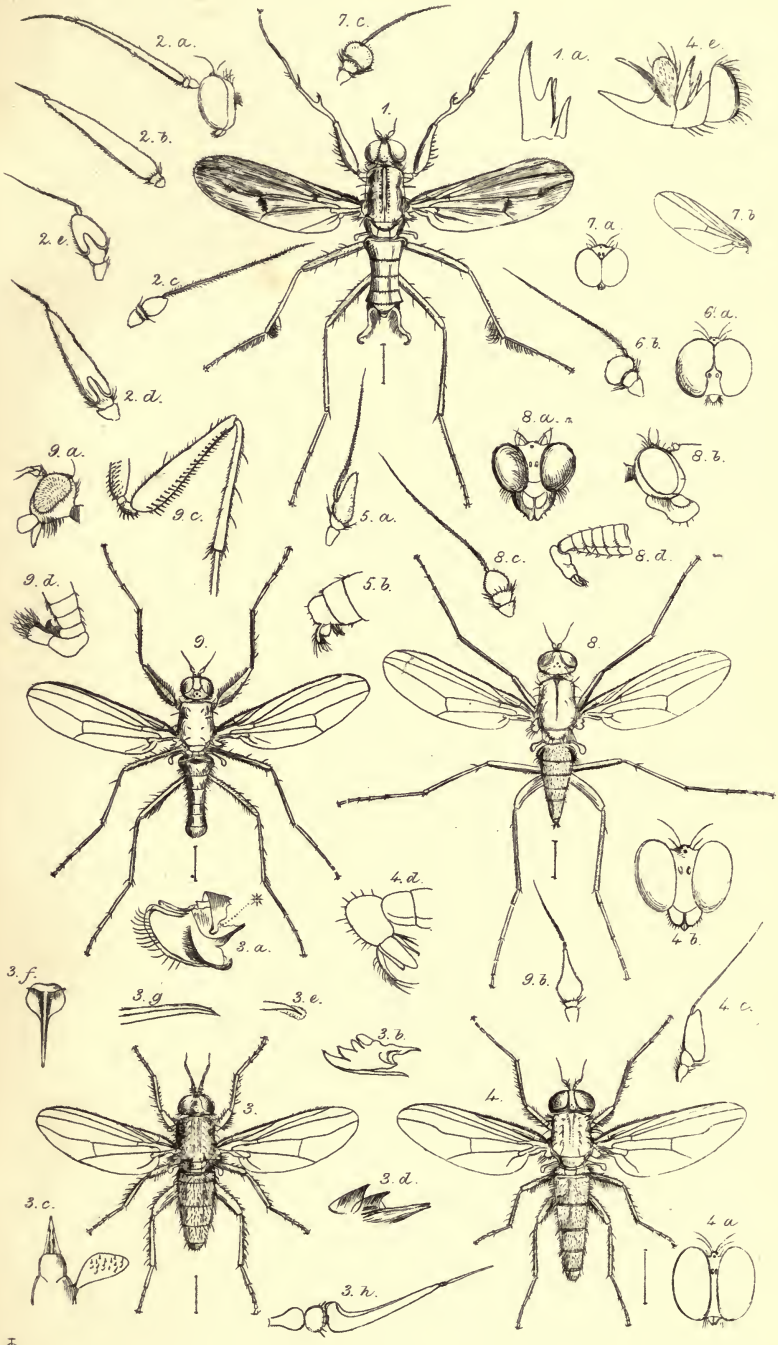

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PLATE VIII.

Family XXII. LONCHOPTERIDÆ.

Genus 1. **Lonchoptera.** Fig. 1. *Lonchoptera lutea*, male. 1 *a**, head, from below, showing the form of the peristoma; 1 *b**, side view of proboscis, showing the elongate labella, the palpus a little shorter than, and parallel to, them, and an upper frame-work which seems to be the epistoma (*prælabrum* of Wahlberg); 1 *c**, the same seen edgeways from above, with the labrum? disengaged; 1 *d**, the labrum? or clypeus? with the tongue seen edgeways from above; 1 *e**, the labrum alone; 1 *f**, antenna with three-jointed arista; 1 *g*, wing of female; 1 *h**, the vagina, the tentacula not distinctly seen; 1 *i**, the same, seen from the opposite direction, with the short tentacula forced open; 1 *k**, extremity of abdomen of male, sideways.

Family XXIII. PLATYPEZIDÆ.

Genus 1. **Platypeza.** Fig. 2. *Platypeza picta.* 2 *a*, head of male; 2 *b*, face of female, showing the mouth and two palpi; 2 *c*, antenna; 2 *d*, middle tarsus; 2 *e*, hind tarsus; 2 *f*, last joint of tarsus; 2 *g*, mouth, from Meigen.

Genus 2. **Callomyia.** Fig. 3. *Callomyia elegans.* 3 *a*, face of female; 3 *b*, antenna; 3 *c*, hind tarsus.

Genus 3. **Opetia.** Fig. 4 *a*, wing of *Opetia nigra*; 4 *b*, antenna.

Genus 4. **Platycnema.** Fig. 5. *Platycnema pulicaria.* 5 *a*, antenna; 5 *b*, extremity of tarsus, sideways.

Family XXIV. PIPUNCULIDÆ.

Genus 1. **Pipunculus.** Fig. 6 *a*, head of *Pipunculus campestris*, male; 6 *b*, ditto, female; 6 *c*, antenna; 6 *d*, proboscis, sideways; 6 *e*, wing; 6 *f*, extremity of abdomen of male; 6 *g*, wing of *P. auctus.* (Chiefly from Curtis.)

Genus 2. **Chalarus.** Fig. 7. *Chalarus spurius.* 7 *a*, face of female; 7 *b*, antenna; 7 *c*, middle leg; 7 *d*, extremity of tarsus.

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DIPTERA, Pl. VIII.

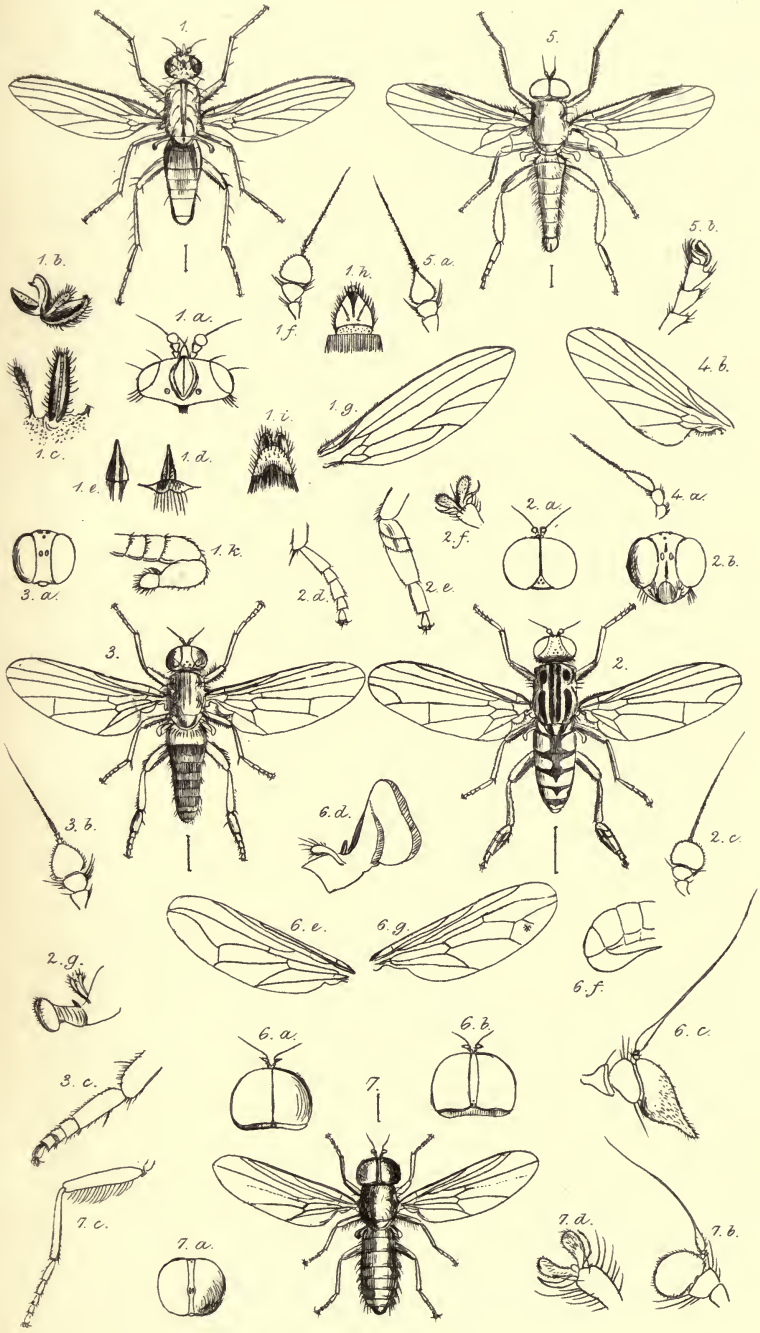

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PLATE IX.

Family XXV. SYRPHIDÆ.

Genus 1. **Ceria.** Fig. 1 *a*, head of *Ceria conopsoides*, seen sideways; 1 *b*, extremity of wing of ditto.

Genus 2. **Callicera.** Fig. 2. *Callicera ænea.* 2 *a*, antenna.

Genus 3. **Microdon.** Fig. 3 *a*, antenna of *Microdon apiformis*; 3 *b*, wing of ditto.

Genus 4. **Eumerus.** Fig. 4 *a*, head of *Eumerus strigatus*, sideways; 4 *b*, wing of ditto.

Genus 5. **Eristalis.** Fig. 5 *a*, head of *Eristalis tenax*, male, from above; 5 *b*, head of female, sideways; 5 *c*, wing of ditto.

Genus 6. **Helophilus.** Fig. 6 *a*, head of *Helophilus pendulus*, male, from above; 6 *b*, ditto, sideways; 6 *c*, extremity of wing.

Genus 7. **Merodon.** Fig. 7 *a*, head of *Merodon clavipes*, sideways; 7 *b*, hind leg of male of ditto.

Genus 8. **Tropidia.** Fig. 8 *a*, head of *Tropidia milesiformis*, male; 8 *b*, extremity of wing of ditto.

Genus 9. **Syritta.** Fig. 9. *Syritta pipiens*, male. 9 *a*, head, sideways.

Genus 10. **Xylota.** Fig. 10 *a*, head of *Xylota sylvarum*, male; 10 *b*, antenna; 10 *c*, extremity of wing; 10 *d*, base of hind leg, showing small spine on the coxa.

Genus 11. **Milesia.** Fig. 11 *a*, head of *Milesia speciosa*, sideways; 11 *b*, extremity of wing; 11 *c*, base of hind leg.

Genus 12. **Criorhina.** Fig. 12. *Criorhina oxyacanthæ.* 12 *a*, head, sideways.

Genus 13. **Volucella.** Fig. 13 *a*, head of *Volucella bombylans*, sideways; 13 *b*, antenna; 13 *c*, extremity of wing.

Genus 14. **Sericomyia.** Fig. 14. *Sericomyia borealis.* 14 *a*, head of ditto, sideways; 14 *b*, claw joint of tarsus.

Genus 20. **Orthoneura.** Fig. 15. *Orthoneura nobilis.*

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DIPTERA, Pl. IX.

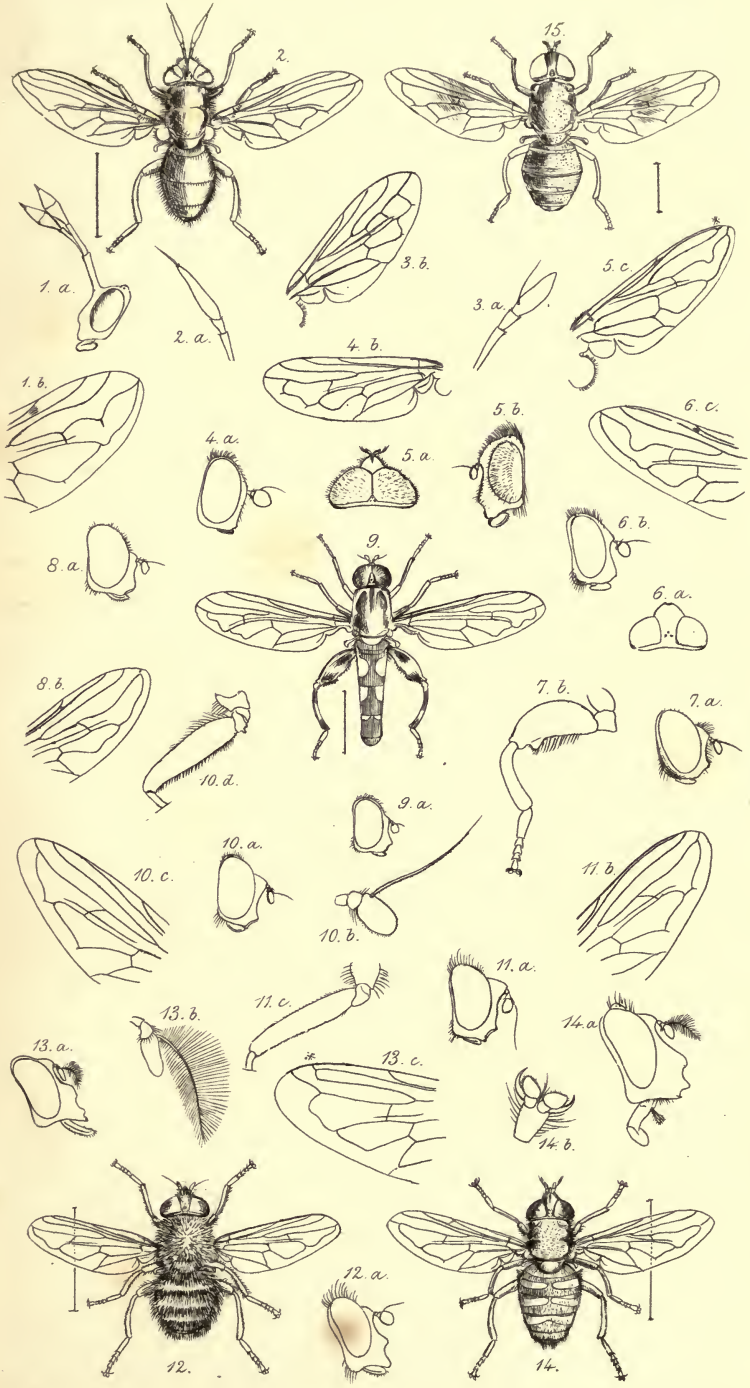

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PLATE X.

Family XXV. SYRPHIDÆ (*continued*).

Genus 15. **Chrysotoxum.** Fig. 1 *a*, head of *Chrysotoxum fasciolatum*, male, sideways; 1 *b*, abdomen of male, sideways.

Genus 16. **Psarus.** Fig. 2 *a*, head of *Psarus abdominalis*, from above; 2 *b*, antenna of ditto.

Genus 17. **Paragus.** Fig. 3 *a*, head of *Paragus femoratus*, male; 3 *b*, ditto, sideways; 3 *c*, extremity of wing.

Genus 18. **Psilota.** Fig. 4 *a*, head of *Psilota anthracina*, sideways; 4 *b*, wing:—both from Meigen.

Genus 19. **Pipiza.** Fig. 5 *a*, head of *Pipiza noctiluca*, sideways.

Genus 20. **Orthoneura** (*continued*). Fig. 6 *a*, antenna of *Orthoneura elegans* (Meigen).

Genus 21. **Chrysogaster.** Fig. 7 *a*, head of *Chrysogaster cœmeteriorum*, sideways; 7 *b*, extremity of wing; 7 *c*, extremity of wing of *C. nigricollis* (Meigen).

Genus 22. **Brachyopa.** Fig. 8. *Brachyopa cónica.* 8 *a*, head of ditto, sideways.

Genus 23. **Rhingia.** Fig. 9 *a*, head of *Rhingia rostrata*, male; 9 *b*, ditto, sideways.

Genus 24. **Chrysoclamis.** Fig. 10. *Chrysoclamis cuprea.* 10 *a*, labrum and lingua, with one of the maxillæ and its palpus (Meigen).

Genus 25. **Cheilosia.** Fig. 11 *a*, head of *Cheilosia œstracea*, male, sideways; 11 *b*, proboscis of *C. lucorum* (after Curtis); 11 *c*, extremity of wing.

Genus 26. **Syrphus.** Fig. 12. *Syrphus pyrastri*, female. 12 *a*, head of male.

Genus 27. **Doros.** Fig. 13 *a*, abdomen of *Doros conopseus*, female (8-*jointed*).

Genus 28. **Melithreptus.** Fig. 14. *Melithreptus menthastri*, male. 14 *a*, extremity of body of ditto; 14 *b*, abdomen of female of ditto.

Genus 29. **Baccha.** Fig. 15 *a*, abdomen of *Baccha tabida*; 15 *b*, hind leg of ditto.

Genus 30. **Sphegina.** Fig. 16. *Sphegina clunipes.*

Genus 31. **Ascia.** Fig. 17 *a*, head of *Ascia podagrica*, sideways; 17 *b*, extremity of wing of ditto.

Family XXVI. CONOPIDÆ.

Genus 1. **Conops.** Fig. 18. *Conops rufipes.* 18 *a*, head of ditto, sideways; 18 *b*, proboscis; 18 *c*, antenna.

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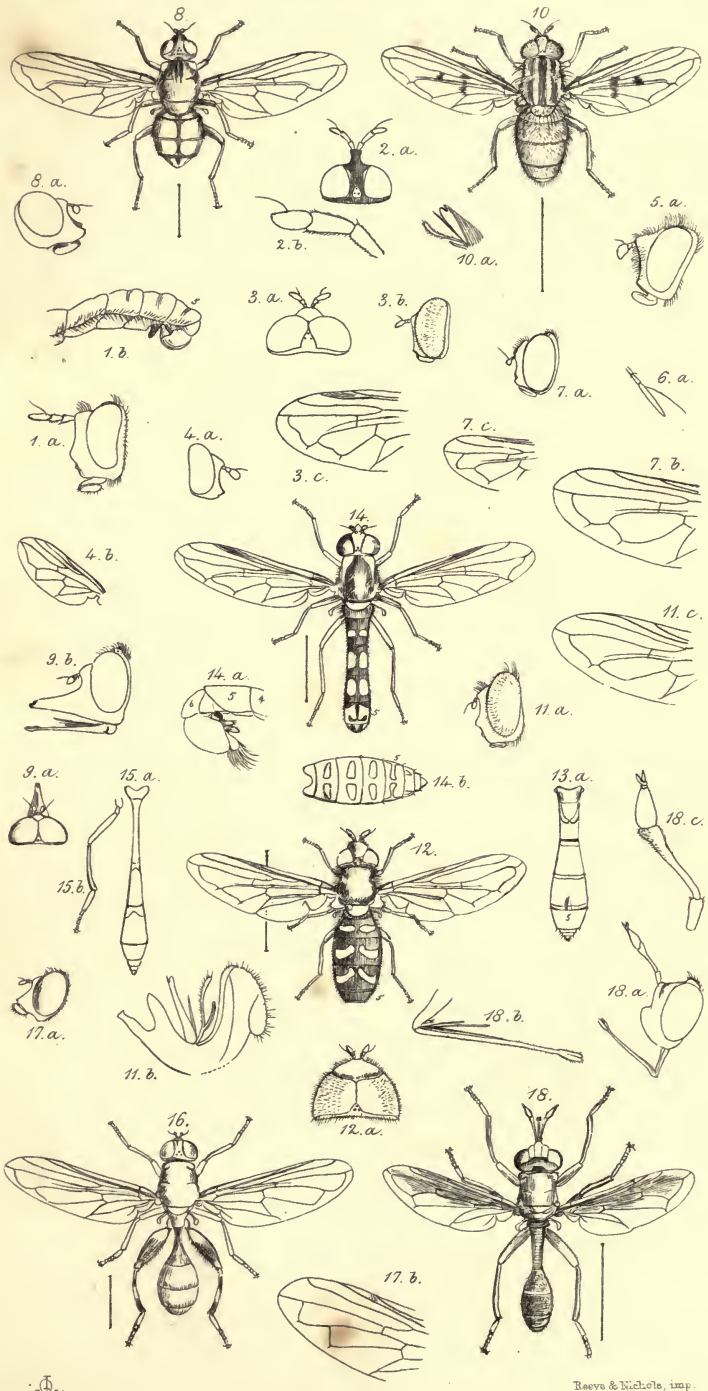
DIPTERA, Pl. X.



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